

THE INDUSTRIALIST

Historical Society

Vol. 36

Saturday, February 26, 1910

No. 17

Issued Weekly By
Kansas State Agricultural College
Manhattan, Kansas



~~~~~  
*Published by*  
**PRINTING DEPARTMENT**  
*J. D. Rickman, Supt.*

Entered at post-office, Manhattan, Kan., as second-class matter. Act of July 16, 1894



# THE INDUSTRIALIST.

|                         |                 |
|-------------------------|-----------------|
| PRES. H. J. WATERS..... | Editor-in-Chief |
| DR. J. D. WALTERS.....  | Local Editor    |
| DR. J. T. WILLARD.....  | Alumni Editor   |

## BOARD OF REGENTS.

|                                                       |              |
|-------------------------------------------------------|--------------|
| HON. W. E. BLACKBURN, President.....                  | Anthony      |
| HON. J. O. TULLOSS ['99], Vice-President.....         | Sedan        |
| HON. EDWIN TAYLOR.....                                | Edwardsville |
| HON. ARTHUR CAPPER.....                               | Topeka       |
| HON. A. L. SPONSLER.....                              | Hutchinson   |
| HON. TOM BLODGETT.....                                | Wichita      |
| PRES. H. J. WATERS, Secretary <i>ex-officio</i> ..... | Manhattan    |

## BOARD OF INSTRUCTION.

### FACULTY.

|                                                                                                |                                                     |
|------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| HENRY J. WATERS, B. S. A. (University of Missouri).....                                        | President                                           |
| ED. H. WEBSTER, B. S. A. (Ia. S. C.), M. S. (K. S. A. C.).....                                 | Director Exp. Sta., Dean of Agriculture             |
| JOHN D. WALTERS, D. A. (K. S. A. C.).....                                                      | Professor of Architecture and Drawing               |
| JULIUS T. WILLARD, D. Sc. (K. S. A. C.), Prof. of Chem. V.-Director Exp. Sta., Dean of Science |                                                     |
| BENJ. L. REMICK, Ph. M. (Cornell College).....                                                 | Professor of Mathematics                            |
| BENJ. F. EYER, E. E. (Armour Institute of Technology).....                                     | Prof. of Electrical Engineering                     |
| HERBERT F. ROBERTS, M. S. (K. S. A. C.).....                                                   | Professor of Botany                                 |
| WILLIAM A. MCKEEVER, Ph. M. (University of Chicago).....                                       | Professor of Philosophy                             |
| EDMUND B. MCCORMICK, S. B. (Mass. Inst. of Tech.).....                                         | Prof. of Mech. Eng., Dean of Mech. Arts             |
| ALBERT DICKENS, M. S. (K. S. A. C.).....                                                       | Professor of Horticulture, Supt. of Grounds         |
| CLARK M. BRINK, Ph.D. (U. of City of N. Y.).....                                               | Prof. of English, Dean of the Coll., Asst. to Pres. |
| ALBERT M. TEN EYCK, B. Agr. (University of Wisconsin).....                                     | Prof. of Agronomy, Supt. of Farm                    |
| RALPH R. PRICE, M. A. (University of Kansas).....                                              | Professor of History and Civics                     |
| JULIUS E. KAMMEYER, M. A. (Central Wesleyan College).....                                      | Professor of Economics                              |
| JOHN V. CORTELYOU, Ph. D. (Heidelberg).....                                                    | Professor of German                                 |
| OLOF VALLEY, B. M. (Chicago Conservatory).....                                                 | Professor of Music                                  |
| F. S. SCHOENLEBER, D. V. S. (Chicago Vet. College).....                                        | Professor of Veterinary Science                     |
| ROLAND J. KINZER, B. S. A. (Iowa State College).....                                           | Professor of Animal Husbandry                       |
| WALTER E. KING, M. S. (Cornell University).....                                                | Professor of Bacteriology                           |
| THOMAS J. HEADLEE, Ph. D. (Cornell University).....                                            | Professor of Entomology                             |
| CHAS. H. BOICE, First Lieutenant Seventh Cavalry, U. S. A.....                                 | Professor of Military Science                       |
| JOHN C. KENDALL, B. S. (New Hampshire A. & M. College).....                                    | Professor of Dairy Husbandry                        |
| JOHN O. HAMILTON, B. S. (University of Chicago).....                                           | Professor of Physics                                |
| MRS. MARY P. VANZILE, (Iowa State College).....                                                | Prof. of Domestic Science, Dean of Women            |
| JOSHUA D. RICKMAN.....                                                                         | Superintendent of Printing                          |
| MISS MARGUERITE E. BARBOUR (Sargent Nor. Sch. Phys. Tr.).....                                  | Director of Physical Training                       |
| MISS ANTONETTA BECKER (Drexel Institute).....                                                  | Professor of Domestic Art                           |
| MISS GERTRUDE BARNES.....                                                                      | Librarian                                           |
| LOWELL E. CONRAD, M. S. (Lehigh University).....                                               | Professor of Civil Engineering                      |
| JOHN H. MILLER, M. A.....                                                                      | Superintendent Farmers' Institutes                  |
| MISS MARGARET BUTTERFIELD.....                                                                 | Secretary                                           |
| WILLIAM R. LEWIS.....                                                                          | Custodian                                           |

### ASSISTANT PROFESSORS.

|                                                                       |                                               |
|-----------------------------------------------------------------------|-----------------------------------------------|
| JACOB LUND, M. S. (K. S. A. C.).....                                  | Superintendent Heat and Power Department      |
| ANDREY A. POTTER, S. B. (Mass. Inst. of Tech.).....                   | Asst. Professor of Mechanical Engineering     |
| ROBERT H. BROWN, B. M. (Kan. Con. of Music), B. S. (K. S. A. C.)..... | Asst. Professor of Music                      |
| GEO. A. DEAN, M. S. (K. S. A. C.).....                                | Assistant Professor of Entomology             |
| WILLIAM H. ANDREWS, A. B. (University of Chicago).....                | Assistant Professor of Mathematics            |
| ROBERT E. EASTMAN, M. S. (Cornell University).....                    | Assistant Professor of Forestry               |
| LELAND E. CALL, B. S. (Ohio State University).....                    | Assistant Professor of Soils                  |
| ROY A. SEATON, B. S. (K. S. A. C.).....                               | Assistant Professor of Mechanical Engineering |
| LEONARD W. GOSS, D. V. M. (Ohio State University).....                | Asst. Professor of Veterinary Science         |
| GEO. E. BRAY, M. E. (University of Minnesota).....                    | Asst. Prof. Mech. Engineering, Supt. of Shops |
| MISS ULA M. DOW, B. S. (K. S. A. C.).....                             | Assistant Professor of Domestic Science       |
| H. H. KING, A. B. (Ewing College).....                                | Assistant Professor of Chemistry              |
| JOHN B. WHELAN, M. A. (University of Nebraska).....                   | Assistant Professor of Chemistry              |
| C. O. SWANSON, M. Agr. (University of Minnesota).....                 | Asst. Prof. of Agricultural Chemistry         |
| ROBT. J. BARNETT, B. S. (K. S. A. C.).....                            | Assistant Professor of Mathematics            |
| LOUIS H. BEALL, A. B. (Denison College).....                          | Assistant Professor of English                |
| WILMER E. DAVIS, M. S. (University of Illinois).....                  | Assistant Professor of Botany                 |
| F. G. KING, B. S. A. (University of Missouri).....                    | Assistant Professor of Animal Husbandry       |
| K. W. STODDER, D. V. M. (Iowa State College).....                     | Assistant Professor of Veterinary Science     |

### INSTRUCTORS.

|                                                                    |                                  |
|--------------------------------------------------------------------|----------------------------------|
| Miss Ada Rice, B. S. (K. S. A. C.).....                            | Instructor in English            |
| Miss Ella Weeks, A. B. (University of Kansas).....                 | Instructor in Drawing            |
| Miss Daisy Zeininger, B. A. (Fairmount College).....               | Instructor in Mathematics        |
| Theo. H. Scheffer, M. A. (Cornell University).....                 | Instructor in Zoölogy            |
| L. D. Bushnell, B. S. (University of Michigan).....                | Instructor in Bacteriology       |
| M. Francis Ahearn, B. S. (Massachusetts Agricultural College)..... | Instructor in Horticulture       |
| Burton Rogers, D. V. M. (Iowa State College).....                  | Instructor in Veterinary Science |
| Kirk H. Logan, B. S. (University of Kansas).....                   | Instructor in Physics            |
| Miss Clara Willis (Framingham Normal Institute).....               | Instructor in Domestic Science   |
| Miss Ina Cowles, B. S. (K. S. A. C.).....                          | Instructor in Domestic Art       |
| Miss Gertrude Stump, B. S. (K. S. A. C.).....                      | Instructor in Domestic Art       |
| Miss Annette Leonard, A. B. (University of Kansas).....            | Instructor in English            |

(Board of Instruction concluded on last page.)

# THE INDUSTRIALIST

---

VOL. 36.      MANHATTAN, KAN., FEBRUARY 26, 1910.      No. 17

---

## The Landscape Beautiful.

Dr. J. D. Walters, Professor of Architecture and Drawing.

The Kansas State Agricultural College has received another jewel for its crown. One of its alumni, Mr. Frank Albert Waugh, professor of landscape gardening at the Agricultural College of Massachusetts, has recently issued a timely and epoch-making book on landscape art. It is published by the well-known firm of Orange Judd Company, New York, and is entitled "The Landscape Beautiful." The text is illustrated by fifty full-page half-tones of landscape glimpses in parks, fields, and forests, but lovely and dreamy as these many engravings are, it is the text of the book that charms, interests, and enthuses. It was the intention of the writer of these lines to prepare a short book review for the INDUSTRIALIST, and when he picked up the volume he was certain that it contained valuable discussions on landscaping, for he had read many magazine articles by Mr. Waugh and an earlier book by the same author on "Principles of Landscape Gardening," but as he read chapter after chapter he became so interested in the subjects and the style of presentation that he completely forgot the intended review. It seems impossible to do Professor Waugh's book justice in a few lines. We must therefore ask our friends to read a few excerpts culled at random:

"That charming essayist who wrote a lecture on the relation of literature to life did not hesitate to claim everything for literature. He made it his thesis that literature is really the whole stream of life so far as thoughts and passions of mankind have any continuity through the generations. It would be too much to say of landscape that it is the whole life, but this is true at least, that life, as we know it, could not exist apart from the landscape.

"Human life has a few fundamentally necessary conditions, such as food, speech, a social organization, a certain conception of the Infinite power, and a ready contact with the material world. I have not put literature in this category. This may look like taking the negative against Charles Dudley Warner's proposition; but, in the first place, the foregoing list is not intended to be a



complete one; and, in the second place, I am not convinced that literature is really one of the conditions of life. It seems to me to be rather one of its products. Landscape, however, is one of the fundamental conditions.

.....

"Is there an American style of landscape-gardening? or will there ever be one? These questions can not be answered categorically and with confidence. If we have not yet developed a national style in music, painting, literature, or architecture, it is quite too much to expect that greater progress should have been made in landscape-gardening. Some things have, indeed, been done in a truly American way. We have the park systems of Chicago and of Hartford; we have many magnificent private estates, and we have had the exposition at Buffalo. These are only typical examples, showing the art of landscape architecture in a fairly American form. At least we are no longer dependent on exotic plans, plants, nor gardeners. With just pride we may label the whole thing 'Made in America.'

"In another chapter some attempt has been made to determine what are the characteristic features of the indigenous American landscape. We found that it is built on a very large scale, that it contains a great variety of motifs, and that it possesses a large number of extraordinary features.

.....

"The uninitiated person hearing of masterpieces easily forms the idea that there is something complete and final about each one. The very word 'masterpiece' has a big, sonorous and conclusive sound. However, when the critic comes to close quarters with any of the renowned works he finds that they are not without defects. Even the most masterful of the masterpieces, in literature, music, or painting, is only a little way in advance of its competitors. Or, to say differently, there is no such thing as perfection or finality in the works of human art.

.....

"In the field of landscape architecture there are special difficulties which have already been hinted at. A piece of work may be left to-day in the very best condition which the landscape architect's skill can give it, and yet five years from to-day, through neglect or abuse, it may be worthless. An artistic effect in landscape-gardening will not stay fixed. The long time required to secure results in the best sort of landscape work also brings difficulties. The situation becomes particularly awkward when,

through the lapse of time, several different landscape-gardeners are employed successively on the same piece of work.

Some of the masterpieces which I have included in my list are important on account of their historical significance. Circumstances have conspired to give them special influence. This is the case, for instance, with Central Park, New York. The park itself is by no means the best one in the country, and the original design is by no means the best work of its author. Nevertheless, the making of Central Park marks an epoch in American landscape architecture. It was the beginning of the great city park systems which to-day supply the most magnificent examples of the value and beauty to be achieved in the successful practice of this art.

Number Two. The World's Fair grounds at Chicago in 1893 presented a picture which America will never forget. This was probably the most influential piece of landscape architecture ever developed on this continent. In spite of its short life, it was viewed by hundreds of thousands of people from all parts of the continent, and these were precisely the people most able to bear the influence of such work into their own communities. Besides all that, the country was ready for an artistic awakening. America was thoroughly sick of the disgusting architecture which had prevailed since the Civil war. The country had been undergoing an era of despondency, bordering on insanity, in every form of practical art. Home furnishings, men's and women's dress, and every other form of every-day art had sunk to the lowest possible level. The country was beginning to accumulate wealth and needed only a new leadership in matters of taste. Under such circumstances, the architecture and gardening of the World's Fair grounds proved a revelation to thousands of persons. These men and women went home inspired with new ideas of beautiful things and with a determination to make their own homes more orderly and artistic, their own grounds more beautiful, and to give their home towns and cities something of the grandeur and magnificence of the White City beside Lake Michigan.

"The design in itself was a good one. It was well adapted to the flat land on which it was built. It was convenient for the purposes of the Exposition. It showed what could be done in the massing and harmonization of architecture. It showed how this could be accomplished in such a large way as to amount to land-



scape making. The great Court of Honor, surrounded by its beautiful white buildings, with Macmonnies' fountain at one end and the statue of the Republic at the other, told thousands of people for the first time in their lives what were the possibilities of the architectural style of landscape art.

"Presently the visitor crossed a beautiful arched bridge at one side. Probably the visitor had never seen a beautiful bridge before, having known only the most vulgar iron truss work or the shabbiest wooden bridges. At the other end of the bridge he found himself in a pleasant wild garden. The path ran through shady trees, it followed the rusty border of the lagoons, it hid behind masses of shrubbery, it took him by a few steps quite out of sight of the gorgeous White City. He understood with wonder that this wooded island, with all its trees and shrubs and its encircling lagoon, had all been lately made; and he felt that this, indeed, was landscape-gardening. Thus the two great styles of landscape architecture were most emphatically impressed upon the knowledge of the American people at the precise moment when they were most ready to respond. Works of greater artistic merit will often be produced hereafter in America, but works of greater influence never.

. . . . .

"Number Ten. One of the most characteristic developments of landscape architecture in America during the last decade has been that of city building. Suddenly it has come to be recognized that a city is not a fortuitous aggregation of ugly objects, noisome smells and unpleasant noises. It may just as well be an orderly arrangement of things which are beautiful in themselves and capable of still greater beauty when harmoniously arranged. Many enterprizes in city improvement are now under way, and one or two of them should be mentioned amongst American masterpieces in spite of the fact that no one of them has as yet reached completion.

"Unquestionably, Washington stands as the best of our American cities in point of design. This is largely due to the fact that it was designed at the start, instead of being allowed to grow. The work of L'Enfant was so well conceived in the first place, and so well established at the beginning, that it has been proof against meddling or neglect. The city of Washington has always been rather fortunate in all matters connected with its general design. Good architects have been employed on the public buildings (with a few exceptions), and good landscape architects have given what

help they could on public grounds. Andrew Jackson Downing in his day did good work in Washington, and the White House grounds have never been debauched by bad and expensive gardening.

“It is well known that much of the money spent on road improvement in the country is wasted. This is partly because of neighborhood jealousies and cross-road grafts, but largely through plain, honest ignorance. It is hardly to be expected that every road overseer in a country town will be a graduate engineer with up-to-date knowledge of Macadam, Telford, and Tarvia. Those states, therefore, which have county road overseers, or state highway commissions with good engineers at public service, are in the position to get the best roads. Every effort ought to be made to place the services of these experts within reach of the country neighborhoods where road appropriations, always pitiably small, most need to be economized. Country roads ought to be better built, and any scheme which will build them better is to be encouraged.

“Very many country roads not only need to be rebuilt, but they ought to be entirely relocated. Present locations were usually determined many years ago, at the time when the country was first settled. Commonly roads were placed along farm boundaries, not because that was the best location, but because it was customary, and at the time it made little difference. There is probably not a town in New York state or New England in which considerable portions of the main roads could not be relocated to advantage. Any intelligent man could sit down with a map of the town spread on the table and do it after supper. More direct routes could be found between important points, steep hills avoided, swamps and sandy stretches left to one side. In most places there is absolutely nothing left to interfere with such radical and far-reaching improvements. Land is cheap, and condemnation proceedings are easy. In many instances the owners would be glad to give the land.

“Thus far I have spoken chiefly of the North Atlantic states, where land is hilly and roads crooked. The complacent dwellers on the flat interior plains, with their checker-board section-line highways, often imagine that their system is beyond improvement. This is where they are worse off than the New Englander, who knows that his roads are imperfect. The most thoroughly inconvenient system possible is the rectangular layout, whether applied

to cities or to farming districts. City builders have learned this and are trying to bring city plans more to the style of Washington and Paris.

"It would be a very great practical benefit to McPherson, Kan., for example, if a good public thoroughfare could be established running fifteen miles directly northwest from town. If, then, with slight deviations to avoid rough land, it could be continued straight to the village of Marquette, so much the better. A similar diagonal road could be run to the southeast of the city, another to the northeast, and another to the southwest, with equally good effect. For twenty years I lived four miles north and four miles west of McPherson. We called it eight miles to town and traveled the distance without complaint three times a week. As a matter of fact, we were less than six miles from town as the bee flies and were wasting five miles of hard work every trip. I figure that at five miles a trip, three trips weekly, for twenty years I traveled over fifteen thousand highly unnecessary miles, and the thought of it disgusts me so I would like to go back now and sue the county for damages.

"Just consider that there are one hundred busy, hard-working people to-day in that same neighborhood, going to McPherson, say, twice a week the year round. There are twelve thousand miles of travel wasted every year by just those few men and women of that neighborhood. Was such economic waste ever tolerated in anything else? Yet there are thousands of cities and towns in Kansas, Nebraska, the Dakotas, Iowa, Missouri and adjoining states where no diagonal highways exist or were ever thought of. Surely rural improvement finds it easy at this point to propose something better."

---

### **Making Practical Vets. at K. S. A. C.**

The veterinary students of the Kansas State Agricultural College are receiving an abundance of practical experience this year with an average of from fifteen to twenty cases in the veterinary hospital regularly. During the past week the hospital had about a dozen dogs, several sheep and hogs, and two cows, in addition to the usual number of horses. A great variety of cases is treated. Some of the patients have been brought a distance of a hundred miles or more. It is doubtful if the addition recently built to the veterinary hospital will prove large enough to meet the demands.

The students have an opportunity to see all of the work done, and under the direction of the veterinary faculty are required to



assist in the treatment of the various cases. In addition to the regular hospital work, the members of the senior class make trips into the country with the city veterinarian, Doctor Killian, from whom they get the same instruction they would get at the College. Each senior is assigned to a certain day on which he is expected to answer calls to the country, and he goes day or night, rain or shine, cold or warm. In this way they receive the benefit of all the veterinary work in the country surrounding Manhattan, giving them the practical drill in the work as they will find it after they leave the College and making them familiar with all phases of diseased conditions of lower animals.

There is a strong demand for graduates from this course. Inquiries and invitations have been received lately from several states, but Kansas still offers splendid opportunities for veterinarians. As Kansas farmers develop better live stock it is probable that the demand for graduate veterinarians will become stronger, so that the boys who graduate from the veterinary course of K. S. A. C. will have desirable openings at home.

---

### **The Rock Island "Corn Special."**

The first "railroad school" conducted by the Agricultural College was over the Rock Island lines in November, 1905. Now that company, realizing its intimate interests in good crops, offers again to carry Agricultural College speakers with a special train. This time the College wishes to have a "corn special—seed and seed-bed." For many years the Kansas State Agricultural College has been preaching "in season and out of season" the importance of good seed and the better preparation of the seed-bed both for corn and wheat; in other words, better farming. These doctrines have been presented at every institute in the State, and now it is desired to make a swift campaign over the Rock Island, covering in five days practically the entire corn belt, where the speakers will not only emphasize these things, but urge immediate and general action along these lines.

The train will start from Topeka on Tuesday morning, March 1, and end at Belleville on Saturday evening. The lecture will be given in the cars at the depot, except where speakers are dropped, to be taken on later by a regular train or picked up by the special on its return trip past that station. For the most part the lecture period will be thirty-five minutes, practically meaning not much more than thirty minutes for the lecture. Farmers and business



men are urged to be at the depot on the arrival of the train in order to save time. It is hoped that the train will be absolutely on time throughout the trip.

## TUESDAY, MARCH 1.

|                | Arrive      | Leave       |                | Arrive     | Leave      |
|----------------|-------------|-------------|----------------|------------|------------|
| Topeka.....    |             | 7:15 a. m.  | Lost Springs * | 2:15 p. m. | 2:15 p. m. |
| Willard .....  | 7:45 a. m.  | 8:20        | Marion .....   | 2:45       | 3:25       |
| Maple Hill.... | 8:30        | 9:05        | Peabody .....  | 3:50       | 4:30       |
| Paxico.....    | 9:21        | 9:56        | Whitewater...  | 5:00       | 5:35       |
| Alma.....      | 10:16       | 10:56       | Haysville*.... | 6:35       | 6:36       |
| Alta Vista.... | 11:25       | 12:03 p. m. | Riverdale*.... | 7:05       | 7:06       |
| White City*..  | 12:43 p. m. | 12:46       | Wellington...  | 7:20       | 8:45       |
| Herington .... | 1:20        | 2:00        |                |            |            |

## WEDNESDAY, MARCH 2.

|                | Arrive      | Leave       |                                    | Arrive     | Leave      |
|----------------|-------------|-------------|------------------------------------|------------|------------|
| Herington..... |             | 7:30 a. m.  | Medora.....                        | 1:10 p. m. | 1:45 p. m. |
| Ramona .....   | 8:00 a. m.  | 8:35        | Partridge ....                     | 2:35       | 3:10       |
| Durham .....   | 9:00        | 9:35        | Arlington.....                     | 3:25       | 4:00       |
| Canton .....   | 10:00       | 10:40       | Turon .....                        | 4:35       | 5:10       |
| McPherson...   | 11:05       | 11:45       | Preston.....                       | 5:30       | 6:10       |
| Inman.....     | 12:15 p. m. | 12:55 p. m. | Pratt.....Tie Up. Evening Meeting. |            |            |

## THURSDAY, MARCH 3.

|                | Arrive     | Leave      |                | Arrive     | Leave      |
|----------------|------------|------------|----------------|------------|------------|
| Pratt.....     |            | 6:00 a. m. | Woodbine ....  | 2:50 p. m. | 3:25 p. m. |
| Bucklin.....   | 8:00 a. m. | 8:35       | Enterprise†... | 3:45       | 3:46       |
| Mullinville†.. | 8:55       |            | Abilene†.....  | 3:57       | 4:00       |
| Greensburg†..  | 9:15       |            | New Cambria†   | 4:32       | 4:32       |
| Haviland†....  | 9:35       |            | Salina. ....   | 4:45       | 5:25       |
| Cullison ..... | 10:00      | 10:35      | Herington .... | 7:25       |            |
| Herington..... |            | 2:30 p. m. |                |            |            |

## FRIDAY, MARCH 4.

|                | Arrive      | Leave       |                | Arrive     | Leave      |
|----------------|-------------|-------------|----------------|------------|------------|
| Broughton....  | 7:50 a. m.  | 8:25 a. m.  | Courtland .... | 2:30 p. m. | 3:05 p. m. |
| Clay Center... | 8:40        | 9:20        | Formoso.....   | 3:17       | 3:53       |
| Morganville..  | 9:35        | 10:10       | Montrose.....  | 4:03       | 4:38       |
| Clyde.....     | 10:39       | 11:15       | Mankato.....   | 4:48       | 5:28       |
| Agenda.....    | 11:32       | 12:07 p. m. | Kensington...  | 7:30       | 8:05       |
| Cuba .....     | 12:27 p. m. | 1:02        | Phillipsburg.. | 8:30       |            |
| Scandia .....  | 1:45        | 2:17        |                |            |            |

## SATURDAY, MARCH 5.

## (Mountain Time.)

|                    | Arrive     | Leave      |                | Arrive     | Leave       |
|--------------------|------------|------------|----------------|------------|-------------|
| Phillipsburg ..... |            | 6:30 a. m. | Prairie View.. | 9:25 a. m. | 10:00 a. m. |
| Norton .....       | 7:30 a. m. | 8:10       | Phillipsburg.. | 10:25      | 11:05       |
| Almena.....        | 8:35       | 9:10       |                |            |             |

## (Central Time.)

|                    | Arrive      | Leave       |                 | Arrive     | Leave      |
|--------------------|-------------|-------------|-----------------|------------|------------|
| Phillipsburg ..... |             | 12:05 p. m. | Lebanon.....    | 2:40 p. m. | 3:15 p. m. |
| Athol.....         | 12:45 p. m. | 1:20        | Esbon .. ....   | 3:25       | 4:00       |
| Smith Center..     | 1:35        | 2:15        | Belleville..... | 5:20       | 6:00       |

\*Drop speaker.

†Pick up speaker.

## The New State Forester.

There is presented herewith a portrait of Prof. Chas. A. Scott, who at the last meeting of the Board of Regents was appointed State forester. Professor Scott is to a large extent a Kansas product. He was born in Westmoreland, Pottawatomie county, where he lived until 1896, when he entered the freshman class of the Kansas State Agricultural College. As he worked to pay his



expenses through College he was obliged to drop out two terms, but was graduated with the class of 1901. He was appointed forest assistant in the Bureau of Forestry at once and remained continuously in that service for three years, when he was granted a furlough and entered the Yale Forestry School as a graduate student. After two terms' work he was appointed forest supervisor in charge of the Nebraska and Kansas work. His duties in this position, in addition to those of administration, consisted largely in the development of a forest nursery in the Dismal River National Forest and handling extensive planting operations in the Dismal River, Niobrara and Garden City National Forests. He also gave expert assistance in connection with many private coöp-

erative projects located in the Dakotas, Wyoming, Montana, Colorado, and Oklahoma, as well as Nebraska and Kansas. For the winters of 1905-'06 and 1906-'07 he was detailed as special lecturer in forestry subjects at the University of Nebraska. January 1, 1908, he resigned his position as forest supervisor to accept the professorship of forestry in the Iowa State College, Ames, Iowa. There his work has consisted almost entirely of instruction in forestry. On entering upon it he found but ten students enrolled in the forestry course; at present the number exceeds forty. With his wife and little daughter, Professor Scott expects to move to Manhattan next June. It will be seen that Professor Scott has had an almost ideal experience in preparation for his work in this State as State forester and professor of forestry, and under his energetic guidance, and with no other duties to take his attention there is every reason to anticipate a marked upward development in forestry in the State.

---

### To Fight Chinch-Bugs.

Chinch-bugs materially reduced the yield of Kansas corn last year, but if the plans of Dr. T. J. Headlee, of the Kansas Experiment Station, are followed by the farmers—those most vitally concerned—the damaging bugs will be practically extinguished before they leave their hibernating quarters this year.

In the Kansas corn belt the damage sustained by the ravages of chinch-bugs ran as high as fifty per cent, this being in the southern portion, in Sumner, Cowley and Chautauqua counties. On account of this heavy loss, the Kansas Station began burning the grass in fields and pastures and along roads and hedges last fall in order to catch the bugs already in hiding and to prevent winter shelter for those still in the corn fields. These experiments were not entirely successful on account of the greenness of the grass and the dampness caused by late rains.

The bugs are now located in clumps of bunch-grass and among blue-stem in pastures and mown meadows, along roadsides of highways and railroads, and in neglected corners of cultivated fields. It is an easy matter now to get rid of the pests, and Doctor Headlee is receiving assurance of extensive coöperation in fighting them.

About the middle of February four of the railroads netting the corn district of the State were asked by the College to burn their right-of-ways and have written Doctor Headlee for further information. This he will furnish in a report suggesting the most ad-



vantageous time of burning, probably from March 8 to 15, so that all the grass area bordering the railroads may be burned in the same week.

General Manager Hurley, of the Santa Fé, in reply to the letter from the College in which attention was called to the fact that chinch-bugs were hibernating in the grass on the right-of-way, said: "This is a matter in which we want to render the agricultural interests of the State every possible assistance, and I have directed that our right-of-way through the infected district shown on the map embodied in the pamphlet enclosed with your letter shall be burned over just as quickly as possible, and we will make every effort to accomplish this between now and the middle of March.

Equally enthusiastic letters were received from W. E. Tinsman, third vice-president of the Rock Island; W. B. Biddle, third vice-president of the Frisco; and D. E. King, industrial commissioner of the Missouri Pacific. It is a source of much gratification to Doctor Headlee to know that the immense acreage embodied in these right-of-ways will be burned and destroy the millions of pests. If all the farmers whose crops are threatened by living in the infected area will set the torch before the bugs fly into the wheat, many bushels of the 1910 cereal crop will be saved.

---

Professor Roberts conducted last summer some interesting experiments to ascertain the relative forage value of various strains of pure-bred alfalfa which have been originated by the Department of Botany. The results show that some of these races are three or four times as productive as others. These superior varieties will be rapidly increased. In connection with the above experiment the relative drought-resistance of the pure-bred varieties was determined by means of a special apparatus which measures the rate at which the plants evaporate water.

---

The Botanical Department is at work on the growing of pure cultures of yeast, with a view to selecting out and growing these yeasts that are highest in carbonic acid gas-producing power. These will be used for future baking tests of the pure-bred wheats now being grown by the department.

---



## Local Notes.

The winter term will close Friday, March 25.

The zero weather got the best of the chapel exercises last Wednesday morning.

The College sophomores defeated the Fort Riley team in a spirited game out at the Fort last Saturday. The game stood 32 to 22 against the soldiers.

Mrs. J. D. Rickman left Tuesday for Wilkes-Barre, Pa., for an extended visit with her son Clyde, a former student, who is recovering from a long and serious spell of typhoid fever.

Professors Walters, McCormick, Eyer, Conrad, and Potter, State Engineer Gearhart and Assistant Logan went to Lawrence last Friday morning to represent the College at the dedication exercises of the new Engineering Hall of the State University.

Professor Roberts has just turned in the first of a series of bulletins in wheat breeding, covering the results of his experiments for the past two or three years. This bulletin deals with a scientific method for determining the hardness of wheat.

Student A. Endacott concluded last Saturday that he would take a three-days' vacation at his parental home up at Clay Center, and in order to whet his appetite for a formidable onslaught on the family larder he walked the whole distance (thirty-five miles) on the Rock Island railroad track.

Mr. Bullene, of the *Kansas City Star*, visited the Domestic Science and Domestic Art Departments on Friday and was very much interested in the work done by the young women there. The results of his observations will probably appear in an early number of the paper which he represents.

The many friends of Mrs. Mary (Winston) Newson were greatly pained by the news of the death of Professor Newson, which occurred by reason of heart failure Friday, February 18, 1910. Professor Newson had appeared to be in his usual health up to the last. Mrs. Newson will be remembered most warmly by members of the Faculty, and students as well, who knew her as professor of mathematics here from 1897 to 1900, and all will hope that the way may be open before her in her bereavement. Professor Newson was professor of mathematics in the University of Kansas.

Last Saturday night the literary societies held two intersociety debating contests—one in the Old Chapel, attended by the Ionians, Hamiltons, and Franklins, and one in the Auditorium attended by the Athenians, Alpha Betas, Eurodelphians, and Websters. The judges of the former debate were Prof. J. E. Kammeyer, Doctor Holt, and Hon. R. J. Brock, and those of the latter Dr. T. J. Headlee, Professor Andrews, and County Attorney Evans. The Debating Council will later go over the results of these preliminaries and announce the standing of the participants. On April 8 the winning contestants will represent the Agricultural College in her debate with Fairmount College, of Wichita.

Unless Secretary Coburn, of the State Board of Agriculture, finds it necessary to change his date he will address the students in chapel on Wednesday morning, March 2. This is one of the lecture course for students in the printing course, but Mr. Coburn will have something that will be interesting to the whole student body. Mr. Coburn is an old-time newspaper man.

The annual tournament of the basket-ball girls will be held in the Women's Gymnasium Monday, February 28. There will be a game between the juniors and seniors and another one between the freshmen and sophomores. After these the two winning teams will play a game for the Askren loving cup. In order to win the cup "for keeps" it must be won by the same "year" in three successive annuals. Last year the senior team was victorious.

---

## Alumni and Former Students.

A. W. Barnard, '05, has been appointed teacher of manual training in the Montana Reform School, at Miles City, Mont. Mr. Barnard should be able to give excellent satisfaction in such a position.

Mr. and Mrs. L. J. Betts, of Chico, Cal., are parents of a daughter, named Dorothy, born February 5, 1910. Mrs. Betts was formerly Lucy Sweet, '01. They are engaged in business at Chico, Mr. Betts being proprietor of a men's furnishing store.

John U. Higinbotham, '86, was a much interested visitor this week. Mr. Higinbotham has not been here for over twenty years and naturally finds very little that is familiar. He is one of the graduates of the institution who have distinguished themselves in the commercial world, being assistant treasurer of the National Biscuit Company, Chicago, Ill. As heretofore noted, he is also the author of two interesting books recounting experiences in Europe, and he is planning for "Three Weeks in England and Scotland" next summer.

The marriage of Miss Blanche Robertson to Jay Latimer Smith (both of the class of 1908) took place Monday afternoon (February 21) at the home of the bride's parents, Mr. and Mrs. J. A. Robertson, at 930 Osage street. Only the immediate relatives of the young people were present. Before the simple ring ceremony, which was performed by the Rev. D. H. Fisher, Mrs. Roy Graves (Grace (Smith) Graves, '08), of Kansas City, sang "Because." Lohengrin's wedding march was played by Mrs. T. R. Robertson, of Coffeyville. After the good wishes of those present had been expressed, the little niece and nephew of the bride, Roberta Robertson and John Rexford Robertson, assisted by their mothers, Mrs. Archie Robertson, of Alma, and Mrs. T. M. Robertson, of Coffeyville, served a delicious two-course luncheon. Mr. and Mrs. Smith left on the 5:30 Rock Island for Topeka, where they will be at home at 1301 Western Avenue.—*Manhattan Mercury*.



## Board of Instruction (concluded from second page).

## INSTRUCTORS (Concluded).

William L. House.....Instructor in Woodwork, Foreman of Carpenter Shop  
 Louis Wabnitz.....Instructor in Machine Tool Work, Foreman of Machine Shop  
 Ambrose E. Ridenour, B. S. (K. S. A. C.).....Instructor in Moulding, Foreman of Foundry  
 J. H. Hollar.....Instructor in Forging, Foreman of Blacksmith Shop

## ASSISTANTS.

Miss Ina E. Holroyd, B. S. (K. S. A. C.).....Assistant in Mathematics  
 Miss Kate Tinkey.....Assistant Librarian  
 Earl N. Rodell, B. S. (K. S. A. C.).....Assistant in Printing  
 Chas. Yost.....Assistant in Heat and Power Department  
 Earle B. Millard.....Assistant in Machine Shops  
 J. T. Parker.....Assistant in Woodwork  
 E. G. Meinzer, M. A. (Olivet College).....Assistant in German  
 Hugh Oliver.....Assistant in Heat and Power Department  
 Miss Charlaïne Furley, B. A. (Fairmount College).....Assistant in English  
 Miss Jessie Reynolds, A. B. (University of Kansas).....Assistant in History  
 William C. Lane, B. S. (K. S. A. C.).....Assistant in Electrical Engineering  
 Miss Flora C. Knight, A. B. (University of Wyoming).....Assistant in English  
 Miss Grace H. Woodward (Boston School of Domestic Science)....Asst. in Domestic Science  
 Miss Margaret A. Mack (Kansas State Normal School).....Assistant in History  
 S. W. McGarrah, M. A. (Grove City College).....Assistant in Mathematics  
 C. A. Arthur Utt, M. S. (Cornell College).....Assistant in Chemistry  
 Miss Florence Warner, A. B. (University of Illinois).....Assistant Librarian  
 Miss Anna Gordon, A. B. (Iowa College).....Assistant in History  
 Miss Bertha M. Johnston (Simmons College).....Assistant in Domestic Science  
 Harrison E. Porter, B. S. (K. S. A. C.).....Assistant in Mathematics  
 J. B. Parker, M. A. (Ohio State University).....Assistant in Entomology  
 Allen G. Philips, B. S. (K. S. A. C.).....Assistant in Poultry  
 Miss Gertrude Cannon (Bethany College) (Oberlin Conservatory).....Assistant in Music  
 Miss Bertha Bisby.....Assistant in Mathematics  
 Fred M. Hayes, D. V. M. (K. S. A. C.).....Assistant in Veterinary Science  
 Miss Bertha Donaldson (University of Chicago).....Assistant in Domestic Art  
 Miss Elizabeth Putnam (Chicago Art Institute).....Assistant in Drawing  
 L. E. Petty, A. B. (Wabash College).....Assistant in Mathematics  
 Jules C. Cunningham, B. S. (K. S. A. C.).....Assistant in Horticulture  
 Miss Annie E. Lindsey (Simmons College).....Assistant in Domestic Science  
 Miss Amy Allen, B. S. (K. S. A. C.).....Assistant in Printing  
 John E. Smith, B. S. (Oregon Agricultural College).....Assistant in Botany  
 R. C. Wiley, B. S. (Oklahoma A. & M. College).....Assistant in Chemistry  
 Porter J. Newman, B. S. (Franklin College).....Assistant in Chemistry  
 C. E. Griffin, M. S. (University of Michigan).....Assistant in Chemistry  
 C. W. Nash, B. S. (Iowa State College).....Assistant in Crops  
 Chas. Doryland, B. S. (K. S. A. C.).....Assistant in Soils  
 R. C. Thompson, B. S. (K. S. A. C.).....Assistant in Chemistry  
 R. H. Wilson, D. V. M. (K. S. A. C.).....Assistant in Bacteriology  
 Miss Helen Huse, B. S. (K. S. A. C.).....Assistant in Domestic Science  
 E. F. Kubin, D. V. M. (K. S. A. C.).....Assistant in Veterinary Science  
 B. S. Orr, B. S. (K. S. A. C.).....Assistant in Mechanical Engineering  
 Elmer Johnson, B. S. (K. S. A. C.).....Assistant in Mechanical Engineering  
 A. B. Nystrom, B. S. (K. S. A. C.).....Assistant in Dairy Husbandry  
 A. Miyawaki, M. S. (K. S. A. C.).....Assistant in Experimental Dairying  
 Geo. C. Wheeler, B. S. (K. S. A. C.).....Farm Management, Farmers' Institute Department  
 C. V. Holsinger, B. S. (K. S. A. C.).....Horticulture, Farmers' Institute Department  
 P. E. Crabtree.....Farm Management, Farmers' Institute Department  
 Miss Frances L. Brown, B. S. (K. S. A. C.).....Domestic Science, Farmers' Institute Department  
 C. H. Hinman, A. B. (University of Nebraska).....Dairying, Farmers' Institute Department  
 W. S. Gearhart, B. S. in C. E. (University of Missouri).....Highway Engr., Farmers' Inst. Dept.  
 Miss Ethel Byerly, (Drexel Institute).....Assistant in Domestic Art  
 T. G. Patterson, B. S. (University of Minnesota).....Assistant in Animal Husbandry  
 Mrs. Jessie Gulick.....Assistant in Library  
 Miss Mary Mudge, B. S. (K. S. A. C.).....Assistant in Library  
 Miss Estella M. Boot, M. A. (Northwestern University).....Assistant in English  
 J. R. Jenness, B. S. (Denison College).....Assistant in Physics  
 Harry Evans, B. S. (Ohio State University).....Assistant in Entomology  
 Miss Ada Baum (Chicago Musical College).....Assistant in Music  
 Miss Ethel K. M. Ping (Sherwood Music School).....Assistant in Music  
 E. P. Johnston, A. B. (Oberlin College) (Emerson Coll. of Oratory)....Asst. in Public Speaking  
 Dean H. Rose, M. A. (Washington University, St. Louis).....Assistant in Botany  
 Miss Anna Monroe, B. S. (K. S. A. C.).....Assistant in Botany  
 Miss Madge Kay, B. S. (University of Chicago).....Assistant in Mathematics  
 C. A. Jackson, B. S. (Purdue University).....Assistant in Mathematics  
 D. O. Stone, C. E. (Cornell University).....Assistant in Civil Engineering  
 Paul W. Graff, B. S. (Connecticut Agricultural College).....Assistant in Botany  
 T. R. H. Wright, B. S. A. (University of Missouri).....Assistant in Animal Husbandry  
 L. A. Chase.....Assistant in History  
 Henry Wagner.....Assistant in Heat and Power  
 A. E. White, M. S. (Purdue University).....Assistant in Mathematics  
 H. W. Edson, A. M. (Harvard University).....Assistant in English  
 M. R. Bowerman, B. S. (Michigan Agricultural College).....Assistant in Mechanical Engineering  
 Frank C. Harris, B. S. (K. S. A. C.).....Assistant in Architecture and Drawing  
 Geo. A. Westphalinger.....Band Leader  
 Wm. A. Lamb.....Superintendent of Poultry Plant  
 Floyd Howard.....Farm Foreman

# THE INDUSTRIALIST

Historical Society

Vol. 36

Saturday, March 5, 1910

No. 18

*Issued Weekly By*  
**Kansas State Agricultural College**  
*Manhattan, Kansas*



~~~~~  
Published by
PRINTING DEPARTMENT
J. D. Rickman, Supt.

Entered at post-office, Manhattan, Kan., as second-class matter. Act of July 16, 1894

THE INDUSTRIALIST.

PRES. H. J. WATERS.....	Editor-in-Chief
DR. J. D. WALTERS.....	Local Editor
DR. J. T. WILLARD.....	Alumni Editor

BOARD OF REGENTS.

HON. W. E. BLACKBURN, President.....	Anthony
HON. J. O. TULLOSS ['99], Vice-President.....	Sedan
HON. EDWIN TAYLOR.....	Edwardsville
HON. ARTHUR CAPPER.....	Topeka
HON. A. L. SPONSLER.....	Hutchinson
HON. TOM BLODGETT.....	Wichita
PRES. H. J. WATERS, Secretary <i>ex-officio</i>	Manhattan

BOARD OF INSTRUCTION.

FACULTY.

HENRY J. WATERS, B. S. A. (University of Missouri).....	President
ED. H. WEBSTER, B. S. A. (Ia. S. C.), M. S. (K. S. A. C.).....	Director Exp. Sta., Dean of Agriculture
JOHN D. WALTERS, D. A. (K. S. A. C.).....	Professor of Architecture and Drawing
JULIUS T. WILLARD, D. Sc. (K. S. A. C.), Prof. of Chem. V.-Director Exp. Sta., Dean of Science	
BENJ. L. REMICK, Ph. M. (Cornell College).....	Professor of Mathematics
BENJ. F. EYER, E. E. (Armour Institute of Technology).....	Prof. of Electrical Engineering
HERBERT F. ROBERTS, M. S. (K. S. A. C.).....	Professor of Botany
WILLIAM A. MCKEEVER, Ph. M. (University of Chicago).....	Professor of Philosophy
EDMUND B. MCCORMICK, S. B. (Mass. Inst. of Tech.).....	Prof. of Mech. Eng., Dean of Mech. Arts
ALBERT DICKENS, M. S. (K. S. A. C.).....	Professor of Horticulture, Supt. of Grounds
CLARK M. BRINK, Ph.D. (U. of City of N. Y.).....	Prof. of English, Dean of the Coll., Asst. to Pres.
ALBERT M. TEN EYCK, B. Agr. (University of Wisconsin).....	Prof. of Agronomy, Supt. of Farm
RALPH R. PRICE, M. A. (University of Kansas).....	Professor of History and Civics
JULIUS E. KAMMEYER, M. A. (Central Wesleyan College).....	Professor of Economics
JOHN V. CORTELYOU, Ph. D. (Heidelberg).....	Professor of German
OLOF VALLEY, B. M. (Chicago Conservatory).....	Professor of Music
F. S. SCHOENLEBER, D. V. S. (Chicago Vet. College).....	Professor of Veterinary Science
ROLAND J. KINZER, B. S. A. (Iowa State College).....	Professor of Animal Husbandry
WALTER E. KING, M. S. (Cornell University).....	Professor of Bacteriology
THOMAS J. HEADLEE, Ph.D. (Cornell University).....	Professor of Entomology
CHAS. H. BOICE, First Lieutenant Seventh Cavalry, U. S. A.....	Professor of Military Science
JOHN C. KENDALL, B. S. (New Hampshire A. & M. College).....	Professor of Dairy Husbandry
JOHN O. HAMILTON, B. S. (University of Chicago).....	Professor of Physics
MRS. MARY P. VANZILE, (Iowa State College).....	Prof. of Domestic Science, Dean of Women
JOSHUA D. RICKMAN.....	Superintendent of Printing
MISS MARGUERITE E. BARBOUR (Sargent Nor. Sch. Phys. Tr.), Director of Physical Training	
MISS ANTONETTA BECKER (Drexel Institute).....	Professor of Domestic Art
MISS GERTRUDE BARNES.....	Librarian
LOWELL E. CONRAD, M. S. (Lehigh University).....	Professor of Civil Engineering
JOHN H. MILLER, M. A.....	Superintendent Farmers' Institutes
MISS MARGARET BUTTERFIELD.....	Secretary
WILLIAM R. LEWIS.....	Custodian

ASSISTANT PROFESSORS.

JACOB LUND, M. S. (K. S. A. C.).....	Superintendent Heat and Power Department
ANDREY A. POTTER, S. B. (Mass. Inst. of Tech.).....	Asst. Professor of Mechanical Engineering
ROBERT H. BROWN, B. M. (Kan. Con. of Music), B. S. (K. S. A. C.).....	Asst. Professor of Music
GEO. A. DEAN, M. S. (K. S. A. C.).....	Assistant Professor of Entomology
WILLIAM H. ANDREWS, A. B. (University of Chicago).....	Assistant Professor of Mathematics
ROBERT E. EASTMAN, M. S. (Cornell University).....	Assistant Professor of Forestry
LELAND E. CALL, B. S. (Ohio State University).....	Assistant Professor of Soils
ROY A. SEATON, B. S. (K. S. A. C.).....	Assistant Professor of Mechanical Engineering
LEONARD W. GOSS, D. V. M. (Ohio State University).....	Asst. Professor of Veterinary Science
GEO. E. BRAY, M. E. (University of Minnesota).....	Asst. Prof. Mech. Engineering, Supt. of Shops
MISS ULA M. DOW, B. S. (K. S. A. C.).....	Assistant Professor of Domestic Science
H. H. KING, A. B. (Ewing College).....	Assistant Professor of Chemistry
JOHN B. WHELAN, M. A. (University of Nebraska).....	Assistant Professor of Chemistry
C. O. SWANSON, M. Agr. (University of Minnesota).....	Asst. Prof. of Agricultural Chemistry
ROBT. J. BARNETT, B. S. (K. S. A. C.).....	Assistant Professor of Mathematics
LOUIS H. BEALL, A. B. (Denison College).....	Assistant Professor of English
WILMER E. DAVIS, M. S. (University of Illinois).....	Assistant Professor of Botany
F. G. KING, B. S. A. (University of Missouri).....	Assistant Professor of Animal Husbandry
K. W. STODDER, D. V. M. (Iowa State College).....	Assistant Professor of Veterinary Science

INSTRUCTORS.

Miss Ada Rice, B. S. (K. S. A. C.).....	Instructor in English
Miss Ella Weeks, A. B. (University of Kansas).....	Instructor in Drawing
Miss Daisy Zeininger, B. A. (Fairmount College).....	Instructor in Mathematics
Theo. H. Scheffer, M. A. (Cornell University).....	Instructor in Zoology
L. D. Bushnell, B. S. (University of Michigan).....	Instructor in Bacteriology
M. Francis Ahearn, B. S. (Massachusetts Agricultural College).....	Instructor in Horticulture
Burton Rogers, D. V. M. (Iowa State College).....	Instructor in Veterinary Science
Kirk H. Logan, B. S. (University of Kansas).....	Instructor in Physics
Miss Clara Willis (Framingham Normal Institute).....	Instructor in Domestic Science
Miss Ina Cowles, B. S. (K. S. A. C.).....	Instructor in Domestic Art
Miss Gertrude Stump, B. S. (K. S. A. C.).....	Instructor in Domestic Art
Miss Annette Leonard, A. B. (University of Kansas).....	Instructor in English

(Board of Instruction concluded on last page.)

THE INDUSTRIALIST

VOL. 36.

MANHATTAN, KAN., MARCH 5, 1910.

No. 18

Veterinary Science at Agricultural College.

There are in Kansas a total of 6,138,890 head of domestic animals on the farm. To care for these animals there are in this State only 270 graduate veterinarians. This means that each of these veterinarians, if the work were divided equally between them, would have the care of the health of 22,733 farm animals.

The live-stock industry of Kansas is one of the greatest in the State. The present value of these animals on the farm is \$225,147,080. The product each year is a large one, both in the flesh, milk and eggs which they yield, and in the manure which they leave for the preservation of the soil. Farm animals are becoming more valuable each year and the farmer has a big financial interest in their health and welfare. Under present conditions he may have access to the services of a skilled veterinarian in case of emergency, though he is more frequently compelled to depend upon his own knowledge and experience.

The important facts that every farmer needs veterinary information and that some farmers desire to become practicing veterinarians were of such moment that the Agricultural College at Manhattan began, years ago, to prepare to supply this demand. The legislature granted an appropriation with which a splendid building has been erected and equipped. A veterinary college has been developed here that is second to none in the country. It is officered by men of exceptional ability and, while the department under its present management is a new one and investigations of the kind necessary here require time, the results have more than justified the expenditure already made and the employment of the experts who are now working for our largest farm industry.

Recently *Kansas Farmer* gave a description of the methods pursued at the Veterinary Department of the Kansas Agricultural College in the vaccination of hogs with anti-hogcholera serum. This information created so much interest and aroused the people of the State to the tremendous value of the work being done to such an extent that it became necessary to equip a serum laboratory for the manufacture and distribution of this, the first real

preventive of this dreaded swine disease. Dr. F. S. Schoenleber is at the head of this great department and is also State veterinarian. He announces that during the year 1910 their facilities will allow them to produce something over 100,000 doses of anti-hogcholera serum for distribution throughout the State. As no legislative appropriation has been made to cover this work it is necessary to charge the cost price per dose, which is something like $1\frac{1}{2}$ cents per cubic centimeter, or about 30 cents per head for a 100-pound shoat. The exact cost is not definitely determined as yet, but the state of Michigan charges 40 cents per dose, Iowa charges 50 cents, and Minnesota 40 cents.

This serum is prepared by injecting the virulent blood from a hog which is about to die with the cholera into one that has been made immune either by already having had the cholera in a natural way or by having been given it by injection. To produce enough virulent blood to hyperimmunize a 200-pound hog requires three or four pigs weighing about 40 pounds each. These must be given a severe form of the disease and must be ready to kill at or near a certain time, as the blood must be used for this work within a few hours after it is drawn from the hog. When the diseased hog is ready he is covered with a sterilized cloth to prevent any dirt or germs from dropping into the vessel which collects the blood as it is drawn from the animal. The tail is shaved closely and thoroughly sterilized with a strong antiseptic before the hog is bled. When drawn from the animal the blood is immediately taken to the laboratory and defibrinated, leaving only the fluid part of the blood, which is called the serum. To this serum is added a small amount of weak solution of carbolic acid, as a preservative.

Each hog is usually bled three times at intervals of seven days. If in condition he is then rehyperimmunized and again bled two or three times. In either case the hog is killed at the last bleeding and all of his blood taken. The serum from all of these different collections of blood is mixed together in order to secure the right potency, as the first drawings are generally too strong and the last ones too weak. Every particle of the serum is thoroughly tested before it is allowed to leave the laboratory. For this purpose several more pigs are used. Therefore, in order to secure 3000 cubic centimeters of serum one 200-pound hog and five smaller pigs are necessary. When secured, this amount will vaccinate about 150 hogs, so that for every six pigs sacrificed the lives of 150 are saved. This means one pig for every 25 saved, which is about four per cent, and this serves to explain the cost of the serum.

Doctor Schoenleber says that he is now prepared to send out about 1200 doses per week, but that these can only be sent to trained veterinarians. During a recent visit to the Doctor's laboratory the writer was shown four checks, amounting to \$350, which had been sent by one man to the Doctor, with instructions to hold them until he could send their value in serum.

A new bulletin has just been issued by Doctor Schoenleber which fully describes the work of his department in the prevention of hog-cholera. This is bulletin No. 163, and may be had by addressing the Experiment Station at Manhattan.

Other important work that is now being conducted at the Veterinary Department of the College includes a new method of vaccination for poll evil and fistula. Doctor Schoenleber is deserving of an immense amount of credit for his discovery of the means of combating these diseases, which are both manifestations of the same affliction. Cases which do not yield to ordinary treatment are generally cured by what he calls autogenic vaccination, which is similar, in a way, to human vaccination against small-pox. The name comes from the method of preparation. A culture is made from the pus secured from the diseased animal. It is then heated and injected into the same animal. This method is used on all cases having suppurating diseases, including quittor, and seems to kill the germs on which the disease thrives.

Contagious abortion is receiving a great deal of attention at the hands of the experts of this department, though most of the work is done through the carbolic acid treatment. It seems that when once affected it does not generally pay to keep an animal as a breeder, as even those which are cured of the disease will refuse to breed or else will fail to give the usual milk flow. Contagious abortion has the aspect of a constitutional disease and the treatment practiced here seems to be the best known, although local treatment does not always win.

The corn-stalk disease, or cerebritis, is also under investigation. The doctors in charge have found that they can produce blind staggers at will by feeding the germs which they have discovered. The old theory of poisoning by nitrate of potash has been abandoned, and the entire force is at work on the cultivation and power of this germ. Results are very promising in this field of investigation.

Tuberculosis among farm animals is being looked after carefully, and the diseased animals of the State are being weeded out as rapidly as possible by means of the tuberculin test.

Under the new stallion law, Doctor Schoenleber and his assist-

ants are busy examining the breeding stallions of the State for soundness. In his work he has seven expert assistants and sixty students who are taking the veterinary medical course of three years for the degree of doctor of veterinary science.

In giving the facts stated above no mention is made of the regular class-room work, which is very heavy. Under present plans the veterinary science course will be lengthened to four years and Kansas will then have the honor of being able to offer the best course in this science that is offered by any college in the United States. In addition to the students who study in this department to qualify as veterinarians, all the students in the animal husbandry and dairy departments are given one term in anatomy, with dissecting and laboratory work. The new course will also provide for one term in general diseases of farm animals with a special course of one term in obstetrics. There will also be training in physiology and bacteriology in the same classes and laboratories that are provided for the regular veterinary students. All of the regular students in the Veterinary Department are subject to call night and day by the farmers of the State, and when they visit a diseased animal they are required to make a diagnosis and prescription. These are inspected by the professor in charge and if approved the animal is treated accordingly.

Kansas not only has the largest Agricultural College in the world but she has the largest veterinary school in this country and, with the revision of the course of study now under way, there seems to be no question but that it will be the best.—*Kansas Farmer*.

The Course in Printing.

J. D. Rickman, Superintendent of Printing.

Since 1875 there has been a Printing Department at the Kansas State Agricultural College. In former years printing was offered as an elective industrial, and little or no specializing was allowed. Even under those conditions quite a number laid the foundation for and have since become good printers or prominent newspaper men.

A little over a year ago the Board of Regents, two of whom were newspaper men and printers, realizing the scarcity of trained men in the country newspaper offices, ordered that a four-year course in printing be added to the curriculum of the College. Instructions were given to "make up a course which would fit the young man to take charge of and run, either for himself or others, a

country newspaper office, including editorial and reportorial work." Such a course was prepared. This being the first of its kind, it required much study to prepare a well-balanced course which would train the student without overbalancing.

Before entering upon the mechanical subjects in the course one must be able to meet the entrance requirements to the freshman year, which, in addition to the common-school branches, requires bookkeeping, advanced English grammar, English readings, English composition, algebra through progressions, elementary botany, and ancient, mediæval and modern history. He must also have completed his freshman year (see course). At the beginning of the sophomore year he is given straight composition, following the subjects as laid down in the course.

The contention is that to be a printer in its broadest sense it is necessary to know more than to merely "stick type" or "kick a job press." Opportunities for learning the trade are growing less every day. In former years every office boasted of its "devil"—a young man (or boy) starting in to "learn the trade." In most cases the editor was also a first-class printer, who guided and directed the apprentice in the mechanical departments, but sadly neglected the educational part. The result has been that many good printers were trained who lacked the mental development of the old-time all-around country newspaper man. On account of this lack of ability to write and manage, many men not printers who were so endowed purchased offices and hired the trained printer to "run" the mechanical end of the office. With the advent of the linotype many of the all-around men took to the key-board, leaving a dearth in printers. The linotype is also partly responsible for the lack of opportunity to learn the trade. The "devil" used to sweep out, build fires, wash rollers, run errands, and when not thus occupied was told to see if he could set type.

Conditions to-day have changed. Most offices have their janitors; the pressroom and composing-room are under different management, and the apprentice (not devil) must confine himself to one of these departments. The linotype sets all straight matter, leaving nothing for the apprentice to begin on, and it is considered poor business policy to start a young man in on ad. or job composition. The foreman is usually a high-priced man, and he is not supposed to take his time to teach the apprentice—it is cheaper and quicker to do the job himself.

In many smaller offices the editor is not a printer. He has bought the office because of his ability as a writer. There were many instances where lawyers and politicians went into the news-

paper business to secure the transportation formerly so freely given by the railroads. In either case, both from lack of ability and inclination, the mechanical end of the business was neglected. The result was a scarcity of printers and a surplus of run-down offices. But conditions are changing. Most offices are now being conducted on business principles, and the proprietor is looking for an all-around printer capable of taking charge of the mechanical end of the establishment—a man capable of doing more than “stick type” or “kick a job press.”

Another cause might be mentioned. It is a common saying that “you can’t get something for nothing.” Young men to-day do not care to take the time to learn a trade. They are too anxious to earn money. They do not seem to appreciate the fact that it requires time to fit themselves to fill the higher and better-paid positions. Two dollars a day looks big to them now, and they do not seem to realize that one dollar per day and competent instruction will finally lead them to positions impossible to reach except they be prepared.

The College does not claim that the students in the printing course will be experts at graduation; far from it. There is no more reason for expecting a finished workman from the course in printing than in expecting a brilliant lawyer, eminent physician or expert dentist at the completion of a college course. Graduates of a state normal or university are not expected to become college professors at graduation, but they generally begin a pedagogic career in a seven-months’ country school. But a right start in any business is a great thing. Too much should not be expected of a graduate, and this is impressed upon the student. He is told that at first he may be the laughing stock of the apprentice-trained youth, because he will not have had the hours of practice required to make the finished workman, but that he has the advantage in having a well-balanced education from which he may draw, and that it will only be a matter of time until he passes the shop-trained man.

It will be noticed by consulting the course that those taking the printing course are given English, history, economics, public speaking, psychology, philosophy, and other mind-broadening studies. He is also taken to the machine-shops and carpenter-shops and given instruction in handling tools and working in iron and wood. Every business man realizes the value of a man capable of doing the slight repairing and keeping in order everything about the establishment. He is also taken to the electrical laboratory and taught something of the electric and gasoline motors.

The instruction in all these things is under competent and trained men.

The country newspaper man is expected to attend all public meetings and not only write them up but take part in the discussions. 'Two terms' work is taken along this line. Further, the student is encouraged to join one of the literary societies of the College, of which there are many, and make himself conspicuous on the floor.

Within the past week or ten days the writer has been attempting to arrange for a series of lectures or talks by some of the best-known newspaper men in Kansas, men who are known far and wide and whose abilities are recognized, and we desire to quote from two or three:

"I wish to say that I think your course, which includes mechanical instruction, is the best possible course for a young man desiring to go into the country newspaper work, and I think the Agricultural College deserves great praise for using its mechanical department for such a good purpose. I think Kansas needs very sadly a generation of newspaper men who know something of the practical end of newspaper making; who can set type, kick a job press, pull a proof, write personals and locals and still know something about good English, economics, and the higher things of life. Of all the courses in journalism that I have ever seen or heard about, one based upon a thorough knowledge of the side of business appeals to me as having considerable sense in it."

"I am hoping you will make a great success of your course in printing, and I am mighty glad you are calling it 'Course in Printing.' I never liked the word 'journalist' or 'journalism,' but I have always liked 'printing' and 'newspaper.'"

"I hope to have a son in your printing course next year. . . . We are all going to depend on you to furnish us office foremen hereafter. When you get one ready will you please tell him to write to me?"

Extracts from many more such letters might be quoted, as well as editorial comments.

The equipment in the Printing Department is first class as far as attempted. The type is all uniform line and in series. There are two Gordons and an Optimus, power cutter, stitcher, and other necessary machines. It is hoped that a linotype may be installed in the near future, and it is certain that the equipment will be increased as necessity demands.

A little over a year ago the department was given a permanent home in a building set aside for it. This building is 70x84 feet,

two stories and basement, and contains twelve work rooms, six offices, and three lavatories. The department at present occupies thirteen of these rooms, and more will be added as needed. The shop is a model, and is kept clean from top to bottom. But little dead-horse work is done, the students being put on the regular College work.

For the Boys and Girls.

Kansas is well in the lead in the great movement of interesting the boys and girls of the country in the study at home of agriculture and domestic science. To further promote an interest in this great movement of home education, the College Extension Department of the Agricultural College carries on each year a number of boys' and girls' contests in connection with its institute work.

For the boys there are corn contests, garden contests, potato contests, etc. For the girls are contests in bread making, fruit canning, jelly making, and for sewing and needle-work.

The county school superintendents are showing an unusual amount of interest in the work, and it is well they do, for it is a branch of education worthy of recognition. Many of the superintendents are "contest secretaries," and through the aid of the force of teachers under them are enrolling a large percentage of students. Already in Linn county so many boys and girls are enrolled for the 1910 contests that the local institutes are considerably bothered as to where to locate enough prizes. In one district in Ottawa county every boy and girl between the ages of ten and twenty-one are enrolled.

In the corn contest the contestants are divided into three classes in order to give boys of different ages and boys of different training in corn breeding an even chance. For the younger boys, ten to fifteen years, cash prizes are generally given for the ten best ears of corn, but in the fifteen to twenty-one class a trip to the State Farmers' Institute at Manhattan in December.

Generally most of the institutes get some public-spirited men to send boys to this big annual State Institute as a prize for the winner. In some places the commercial club sends several, as is the case at Junction City. The Commercial Club at that place has for the last three years sent from twelve to twenty boys to the December meeting each year. In one county there are eleven banks and three years ago each bank sent a boy to the State Institute as a prize for his winning in the county contest.

Contests in bread making, fruit canning and jelly making are offered for the girls who are inclined towards cookery, and a contest in sewing, plain or fancy, for those who excell in needle-work. The contestants are divided into two classes—ten to fourteen years and fourteen to twenty. In many cases winners of the county contests are sent to the State Institute at Manhattan, where they can enroll in domestic science work for a week.

Last year there were 5000 boys and girls enrolled in these contests. Special bulletins have been prepared for distribution, and these boys and girls are also supplied with government bulletins along the lines of the contest in which they are enrolled.

A special number of *Agricultural Education* is now being sent out and will be sent to anyone on application.

Some More Poison.

The Department of Zoölogy has recently received a consignment of 200 pounds of strychnine for its poison laboratory. This amount of strychnine will make 1200 half-gallon cans of prairie-dog poison and, at the rate the poison is now being used, it will supply the needs of the State about a year and a half. Press Bulletin No. 130, published in 1904 by Prof. D. E. Lantz, estimates that a half-gallon can of the mixture prepared by the College will poison 1200 burrows or dog families, or all the dogs on 120 to 160 acres. The 200 pounds of strychnine purchased will therefore be able to kill all the prairie-dogs on 400 square miles or, to make a moderate estimate, at least four millions of the barkers, together with an army of pocket-gophers.

Some years ago, when western Kansas was covered all over with dog towns, the Zoölogy Department ordered much larger lots of the deadly strychnine—often as much as 800 pounds at a time, or more than all the wholesale drug firms of the country could jointly furnish. When such orders were received in Philadelphia it was necessary to send them to the manufacturers in Germany, and these could not believe at first that anybody in America could want such a gigantic dose. In 1902 and 1903 a total of 1200 pounds of strychnine and over 1000 pounds of potassium cyanide was consumed by the College laboratory, and it took the constant work of a laboratory assistant to prepare and ship the poison.

Senior Student T. Clark has an article in the *Kansas Farmer* on "The Percheron Horse."

Local Notes.

The Sedgwick County Club celebrated Washington's birthday by an entertainment in the Carnegie Library.

The senior electrical engineers experimented with the current of the Manhattan Electric Street Railway last Wednesday afternoon.

Pres. H. J. Waters addressed the Shawnee Alfalfa Club at Topeka last Saturday and the Topeka alumni of this College on Friday of this week. To-day he attends the annual banquet of the Kansas City alumni, where he is on the program for an address.

Director Ed. H. Webster, of the Experiment Station, is receiving many inquiries for men ranging from farm hands to superintendents of large estates, but owing to the fact that most of our boys are going back to their own or the paternal farm the requests are far greater than the supply.

Prof. Albert Dickens has just prepared for publication Bulletin 165, entitled "Reports of State Forester upon Forest Conditions in Central and Western Kansas." This bulletin will describe the work of the State forester and give Professor Dickens' observations on tree plantings and tree growth in Kansas for the past twenty years and recommendations regarding the kinds of trees to plant for windbreaks and ornamental plantings on the great plains area. This bulletin will be ready for distribution in a few weeks. Applications for it may be made at any time either through the director of the Experiment Station or the office of the State forester, Manhattan, Kan.

Fred Bullene, the Kansas chief of staff for the *Kansas City Star*, was in Manhattan last Saturday getting material for another story for the *Star*. He has become much interested in the reportorial work being accomplished at the College. This is the first year of a regular printing course and there are only three boys taking the regular work in reportorial work, but the class of work turned out is of such a nature that it has attracted Mr. Bullene's attention. Some of the work that the boys have sent in to the metropolitan press has been used all over the United States. Mr. Bullene says that when the boys get through with their course here that the *Star* will be willing to put them on.—*Daily Mercury*.

Willis T. Pope, '98, writes to Professor Walters from Hawaii: "Mechanical and architectural drawing have proved a great help to me in the various positions I have occupied. Although I have not been back to the College since graduation, I have kept in touch with its good work. Its advancements have been a delight to me, and the memories of the few years spent there are very pleasant. Although it has been my lot to be located far from Sunny Kansas, and to adopt these emerald Isles of Hawaii as my home, I always feel the influence of the years at K. S. A. C. I am still in educational work and at present am Superintendent of Public Instruction for the Territory of Hawaii, located in Honolulu."

Sec. Wm. Davis, of the College Y. M. C. A., "Big Bill," as the boys often called him, left last Saturday for Clearwater, Kan., to take charge of his father's farm. The new secretary, Mr. E. T. Heald, whose present charge is at Colorado Springs, Colo., writes that he will be here on March 17.

Ex-Regent Samuel Dexter Houston, of this College (1863-'69), one of the founders of Bluemont College, a member of the first Kansas legislature and a delegate to the Wyandotte convention, died last Monday at the home of his daughter, Mrs. L. F. Parsons, at Salina. The veteran was nearly 92 years old when he departed. A short biography will be published in the next issue of the INDUSTRIALIST.

We are in receipt of the annual report of the International Congress of Veterinarians, held at Hague last September. The document is published partly in German and partly in French and contains a wealth of information, especially on "Die Staatliche Bekaempfung der Tuberkulose mit Ruecksicht auf deren Infektionswege." We notice that the editor, Dr. B. Bang, of Copenhagen, speaks enthusiastically of the plan for eradicating tuberculosis as proposed by Doctor Rogers of this College, who urged a couple of years ago that all hogs sold in the open market should be provided with ear tags giving the name and place of the farmer who raised and fed them, in order to enable the government meat inspectors to locate the tuberculosis centers.

The Faculty at its meeting last Saturday adopted the sixty-minute period (fifty-five for the recitation proper) as the unit for the new courses of study which are now being formulated. The present period of fifty minutes (forty-five for the recitation proper), which has been in use for a third of a century at the College, had for many years been considered rather short, especially for classes in shop work and laboratory work. As a result of the lengthening of the "hour" there will be but four recitations in each study (with a few exceptions) per week in place of five, and the number of "hours" in the forenoon will be reduced from four to three. The chapel exercises will probably not be held in the morning, but sometime in the forenoon, though this change has not yet been fully agreed upon.

Allen G. Philips and William Lamb, of the Poultry Department, had a singular accident one evening last week. They had gone into the cold-storage cellar of the College creamery to examine some eggs, when for some reason the heavy vault door locked behind them. The storage cellar is so well insulated and padded that a voice cannot penetrate the walls very far. The temperature is below freezing and there is no ventilation. The only comfort that the pair had was electric light, and they could plainly realize that if there was no assistance from without they would have to perish from cold or bad air long before morning. It happened, however, that another employe accidentally came along, heard the pounding and the cries of the entombed pair, and pried the door open. But it was a close call for the hen-fruit experts. —

The basket-ball tournament of the young women in the Women's Gymnasium last Monday afternoon resulted in a victory of the freshmen over the sophomores, the juniors over the seniors, and the juniors over the freshmen. The Askren loving-cup was presented to the victorious juniors with appropriate remarks by Professor Eyer. The contest was well managed and an enjoyable event for the contestants and their three hundred invited guests.

President Waters and Superintendent Rickman will attend the Kansas Editorial Association meetings at Wichita next Monday and Tuesday. On Monday evening President Waters will speak before the Association on "The Editor and the College." L. B. Mickel and Oley Weaver, students in the printing course, will attend the meetings. Mr. Capper, member of the Board of Regents, is president of the association, and Mr. Blackburn, president of the Board of Regents, is recording secretary. Medill McCormack, of the *Chicago Tribune*, will be one of the principal speakers at the banquet on Tuesday evening. Wichita has promised the visitors a gay time.

The demand made on the Poultry Department for information for their methods of feeding to produce eggs were so great that it necessitated the publication of a bulletin on "The Feeding of Laying Hens," by Mr. A. G. Philips, who is in charge of the work of poultry husbandry. This bulletin is No. 164, dated January, 1910. It discusses the selection of hens for laying according to type and gives instructions concerning the feeding of hens for laying, with especial reference to feeds grown under Kansas conditions. The rations used by the Kansas Experiment Station and the methods of feeding are fully described. This bulletin, together with Bulletin 162, makes a very complete statement of the egg situation, both in producing and marketing, as it appears to the Kansas farmer. It is fully believed by Mr. Philips that if the information given is followed it will mean the annual addition of a million dollars to the pocketbooks of the Kansas farmers.

The College Orchestra has grown to its full membership of forty players and is practicing hard on a program to be given Tuesday, March 15, in the Marshall theatre. This concert is given primarily to give the members the actual experience and training, and in appearing before the public in a prepared program. The membership this term is as follows: *First Violins*—L. L. Shaw, R. R. Hand, A. W. Seng, Jno. Schlaefli, W. Davis, F. Newkirk, F. A. Korsmeier, C. L. Kipp. *Second Violins*—W. B. Honska, E. D. C. Miller, A. F. Kiser, R. W. Kiser, G. Nider, A. W. Bellomy, G. B. Kirkpatrick, I. Koogle. *Violas*—D. M. Perrill, F. W. Fowler. *Cellos*—L. T. Perrill, F. H. Fate. *Basses*—H. E. Overholt, L. B. Barofsky, N. Cross. *Flutes*—R. S. Hawkins, E. W. Denman. *Oboe*—F. E. Davis. *Clarinets*—Chas. McKirahan, M. Morse. *Cornets*—P. V. Kelley, Chas. Davis. *Horns*—Geo. May, R. H. Reynolds. *Trombones*—J. R. McClung, M. S. Collins. *Tuba*—L. L. Howenstine. *Tympani and Drums*—L. Hain, D. D. Gray. *Harp*—Cora E. Brown. *Piano*—Florine Fate.

At the annual meeting of the Kansas Improved Live Stock Breeders' Association a committee was appointed to collect contributions for a monument for the late United States Senator, W. A. Harris, Regent of this College at the time of his death. It is the plan of the committee to procure an acre of land at Linwood, near the old home of the departed senator, and convert this into a beautiful little park as a setting for the memorial shaft. Sec. F. D. Coburn, of the State Board of Agriculture, has consented to accept contributions for the purpose.

Sec. F. D. Coburn, of the State Board of Agriculture, addressed the students last Wednesday morning in the Auditorium on the subject of letter writing. He made many good hits and many interesting statements concerning the "lost art" of common-sense, brief, polite, clean, well-written, properly punctuated, folded and addressed writing of postal-cards, paragraphs, business letters, correspondence, etc., and had the undivided attention of his 1500 or more hearers. He had with him a large assortment of letters received by his department that showed how not to do it. Some were poorly spelled, some were written on lovers' note paper, others were "flourished," and still others incorrectly addressed. It was a mixed lot, indeed.

Alumni and Former Students.

J. H. Crisswell, of the class of 1889, has been made dean of agriculture of Winona College, of Winona, Ind. This announcement will come as a pleasant surprise to a large circle of warm friends of Dean Crisswell who live in Manhattan. Mr. Crisswell has been working under Professor Holden in the Iowa Agricultural College for several years and is well equipped for his new position. Mr. Crisswell has a brother and his mother living in Manhattan.—*Republic*.

Miss Juliet Stewart Points, Barnard College, '07, and at present a tutor in history in her alma mater, has won the scholarship offered by the Federation of American Women's Clubs, which corresponds to the Rhodes scholarship for men. Only one girl in the country gets the scholarship each year, and the first examination for it was held last fall. The winner is entitled to study in any European university she selects. The examination is known as the Oxford Responsions. Each state is entitled to send one candidate to the test. In the women's colleges of the country there is no higher honor than the winning of this prize. Announcement of the scholarship award was made by Laura Drake Gill, former dean of Barnard, who is chairman of the committee which conducted the examination for the Federation of American Women's Clubs. Miss Points' father, John J. Points, was a member of the first class graduated from K. S. A. C., and her mother, Alice Eulalie (Stewart) Points, was graduated in the class of '75 and taught school in Manhattan for several years.—*Republic*.

Board of Instruction (concluded from second page).

INSTRUCTORS (Concluded).

William L. House.....	Instructor in Woodwork, Foreman of Carpenter Shop
Louis Wabnitz.....	Instructor in Machine Tool Work, Foreman of Machine Shop
Ambrose E. Ridenour, B. S. (K. S. A. C.).....	Instructor in Moulding, Foreman of Foundry
J. H. Hollar.....	Instructor in Forging, Foreman of Blacksmith Shop

ASSISTANTS.

Miss Ina E. Holroyd, B. S. (K. S. A. C.), (K. S. N.).....	Assistant in Mathematics
Miss Kate Tinkey.....	Assistant Librarian
Earl N. Rodell, B. S. (K. S. A. C.).....	Assistant in Printing
Chas. Yost.....	Assistant in Heat and Power Department
Earle B. Milliard.....	Assistant in Machine Shops
J. T. Parker.....	Assistant in Woodwork
E. G. Meinzer, M. A. (Olivet College).....	Assistant in German
Hugh Oliver.....	Assistant in Heat and Power Department
Miss Charlaire Furlay, B. A. (Fairmount College).....	Assistant in English
Miss Jessie Reynolds, A. B. (University of Kansas).....	Assistant in History
William C. Lane, B. S. (K. S. A. C.).....	Assistant in Electrical Engineering
Miss Flora C. Knight, A. B. (University of Wyoming).....	Assistant in English
Miss Grace H. Woodward (Boston School of Domestic Science).....	Asst. in Domestic Science
Miss Margaret A. Mack (Kansas State Normal School).....	Assistant in History
S. W. McGarrah, M. A. (Grove City College).....	Assistant in Mathematics
C. A. Arthur Utt, M. S. (Cornell College).....	Assistant in Chemistry
Miss Florence Warner, A. B. (University of Illinois).....	Assistant Librarian
Miss Anna Gordon, A. B. (Iowa College).....	Assistant in History
Miss Bertha M. Johnston (Simmons College).....	Assistant in Domestic Science
Harrison E. Porter, B. S. (K. S. A. C.).....	Assistant in Mathematics
J. B. Parker, M. A. (Ohio State University).....	Assistant in Entomology
Allen G. Philips, B. S. (K. S. A. C.).....	Assistant in Poultry
Miss Gertrude Cannon (Bethany College) (Oberlin Conservatory).....	Assistant in Music
Miss Bertha Bisby.....	Assistant in Mathematics
Fred M. Hayes, D. V. M. (K. S. A. C.).....	Assistant in Veterinary Science
Miss Bertha Donaldson (University of Chicago).....	Assistant in Domestic Art
Miss Elizabeth Putnam (Chicago Art Institute).....	Assistant in Drawing
L. E. Petty, A. B. (Wabash College).....	Assistant in Mathematics
Jules C. Cunningham, B. S. (K. S. A. C.).....	Assistant in Horticulture
Miss Annie E. Lindsey (Simmons College).....	Assistant in Domestic Science
Miss Amy Allen, B. S. (K. S. A. C.).....	Assistant in Printing
John E. Smith, B. S. (Oregon Agricultural College).....	Assistant in Botany
R. C. Wiley, B. S. (Oklahoma A. & M. College).....	Assistant in Chemistry
Porter J. Newman, B. S. (Franklin College).....	Assistant in Chemistry
C. E. Griffin, M. S. (University of Michigan).....	Assistant in Chemistry
C. W. Nash, B. S. (Iowa State College).....	Assistant in Crops
Chas. Doryland, B. S. (K. S. A. C.).....	Assistant in Soils
R. C. Thompson, B. S. (K. S. A. C.).....	Assistant in Chemistry
R. H. Wilson, D. V. M. (K. S. A. C.).....	Assistant in Bacteriology
Miss Helen Huse, B. S. (K. S. A. C.).....	Assistant in Domestic Science
E. F. Kubin, D. V. M. (K. S. A. C.).....	Assistant in Veterinary Science
B. S. Orr, B. S. (K. S. A. C.).....	Assistant in Mechanical Engineering
Elmer Johnson, B. S. (K. S. A. C.).....	Assistant in Mechanical Engineering
A. B. Nystrom, B. S. (K. S. A. C.).....	Assistant in Dairy Husbandry
A. Miyawaki, M. S. (K. S. A. C.).....	Assistant in Experimental Dairying
Geo. C. Wheeler, B. S. (K. S. A. C.).....	Farm Management, Farmers' Institute Department
C. V. Holsinger, B. S. (K. S. A. C.).....	Horticulture, Farmers' Institute Department
P. E. Crabtree.....	Farm Management, Farmers' Institute Department
Miss Frances L. Brown, B. S. (K. S. A. C.).....	Domestic Science, Farmers' Institute Department
C. H. Hinman, A. B. (University of Nebraska).....	Dairying, Farmers' Institute Department
W. S. Gearhart, B. S. in C. E. (University of Missouri).....	Highway Engr., Farmers' Inst. Dept.
Miss Ethel Byerly, (Drexel Institute).....	Assistant in Domestic Art
T. G. Patterson, B. S. (University of Minnesota).....	Assistant in Animal Husbandry
Mrs. Jessie Gulick.....	Assistant in Library
Miss Mary Mudge, B. S. (K. S. A. C.).....	Assistant in Library
Miss Estella M. Boot, M. A. (Northwestern University).....	Assistant in English
J. R. Jenness, B. S. (Denison College).....	Assistant in Physics
Harry Evans, B. S. (Ohio State University).....	Assistant in Entomology
Miss Ada Baum (Chicago Musical College).....	Assistant in Music
Miss Ethel K. M. Ping (Sherwood Music School).....	Assistant in Music
E. P. Johnston, A. B. (Oberlin College) (Emerson Coll. of Oratory).....	Asst. in Public Speaking
Dean H. Rose, M. A. (Washington University, St. Louis).....	Assistant in Botany
Miss Anna Monroe, B. S. (K. S. A. C.).....	Assistant in Botany
Miss Madge Kay, B. S. (University of Chicago).....	Assistant in Mathematics
C. A. Jackson, B. S. (Purdue University).....	Assistant in Mathematics
D. O. Stone, C. E. (Cornell University).....	Assistant in Civil Engineering
Paul W. Graff, B. S. (Connecticut Agricultural College).....	Assistant in Botany
T. R. H. Wright, B. S. A. (University of Missouri).....	Assistant in Animal Husbandry
L. A. Chase.....	Assistant in History
Henry Wagner.....	Assistant in Heat and Power
A. E. White, M. S. (Purdue University).....	Assistant in Mathematics
H. W. Edson, A. M. (Harvard University).....	Assistant in English
M. R. Bowerman, B. S. (Michigan Agricultural College).....	Assistant in Mechanical Engineering
Frank C. Harris, B. S. (K. S. A. C.).....	Assistant in Architecture and Drawing
Geo. A. Westphalinger.....	Band Leader
Wm. A. Lamb.....	Superintendent of Poultry Plant
Floyd Howard.....	Farm Foreman

THE INDUSTRIALIST

Historical Society

Vol. 36

Saturday, March 12, 1910

No. 19

Issued Weekly By
Kansas State Agricultural College
Manhattan, Kansas



~~~~~  
*Published by*  
**PRINTING DEPARTMENT**  
*J. D. Rickman, Supt.*

Entered at post-office, Manhattan, Kan., as second-class matter. Act of July 16, 1894



# THE INDUSTRIALIST.

|                         |                 |
|-------------------------|-----------------|
| PRES. H. J. WATERS..... | Editor-in-Chief |
| DR. J. D. WALTERS.....  | Local Editor    |
| DR. J. T. WILLARD.....  | Alumni Editor   |

## BOARD OF REGENTS.

|                                                       |              |
|-------------------------------------------------------|--------------|
| HON. W. E. BLACKBURN, President.....                  | Anthony      |
| HON. J. O. TULLOSS ['99], Vice-President.....         | Sedan        |
| HON. EDWIN TAYLOR.....                                | Edwardsville |
| HON. ARTHUR CAPPER.....                               | Topeka       |
| HON. A. L. SPONSLER.....                              | Hutchinson   |
| HON. TOM BLODGETT.....                                | Wichita      |
| PRES. H. J. WATERS, Secretary <i>ex-officio</i> ..... | Manhattan    |

## BOARD OF INSTRUCTION.

### FACULTY.

|                                                                |                                                     |
|----------------------------------------------------------------|-----------------------------------------------------|
| HENRY J. WATERS, B. S. A. (University of Missouri).....        | President                                           |
| ED. H. WEBSTER, B. S. A. (Ia. S. C.), M. S. (K. S. A. C.)..... | Director Exp. Sta., Dean of Agriculture             |
| JOHN D. WALTERS, D. A. (K. S. A. C.).....                      | Professor of Architecture and Drawing               |
| JULIUS T. WILLARD, D. Sc. (K. S. A. C.), Prof. of Chem. V..... | Director Exp. Sta., Dean of Science                 |
| BENJ. L. REMICK, Ph. M. (Cornell College).....                 | Professor of Mathematics                            |
| BENJ. F. EYER, E. E. (Armour Institute of Technology).....     | Prof. of Electrical Engineering                     |
| HERBERT F. ROBERTS, M. S. (K. S. A. C.).....                   | Professor of Botany                                 |
| WILLIAM A. MCKEEVER, Ph. M. (University of Chicago).....       | Professor of Philosophy                             |
| EDMUND B. MCCORMICK, S. B. (Mass. Inst. of Tech.).....         | Prof. of Mech. Eng., Dean of Mech. Arts             |
| ALBERT DICKENS, M. S. (K. S. A. C.).....                       | Professor of Horticulture, Supt. of Grounds         |
| CLARK M. BRINK, Ph. D. (U. of City of N. Y.).....              | Prof. of English, Dean of the Coll., Asst. to Pres. |
| ALBERT M. TEN EYCK, B. Agr. (University of Wisconsin).....     | Prof. of Agronomy, Supt. of Farm                    |
| RALPH R. PRICE, M. A. (University of Kansas).....              | Professor of History and Civics                     |
| JULIUS E. KAMMEYER, M. A. (Central Wesleyan College).....      | Professor of Economics                              |
| JOHN V. CORTELYOU, Ph. D. (Heidelberg).....                    | Professor of German                                 |
| OLOF VALLEY, B. M. (Chicago Conservatory).....                 | Professor of Music                                  |
| F. S. SCHOENLEBER, D. V. S. (Chicago Vet. College).....        | Professor of Veterinary Science                     |
| ROLAND J. KINZER, B. S. A. (Iowa State College).....           | Professor of Animal Husbandry                       |
| WALTER E. KING, M. S. (Cornell University).....                | Professor of Bacteriology                           |
| THOMAS J. HEADLEE, Ph. D. (Cornell University).....            | Professor of Entomology                             |
| CHAS. H. BOICE, First Lieutenant Seventh Cavalry, U. S. A..... | Professor of Military Science                       |
| JOHN C. KENDALL, B. S. (New Hampshire A. & M. College).....    | Professor of Dairy Husbandry                        |
| JOHN O. HAMILTON, B. S. (University of Chicago).....           | Professor of Physics                                |
| MRS. MARY P. VANZILE, (Iowa State College).....                | Prof. of Domestic Science, Dean of Women            |
| JOSHUA D. RICKMAN.....                                         | Superintendent of Printing                          |
| MISS MARGUERITE E. BARBOUR (Sargent Nor. Sch. Phys. Tr.).....  | Director of Physical Training                       |
| MISS ANTONETTA BECKER (Drexel Institute).....                  | Professor of Domestic Art                           |
| MISS GERTRUDE BARNES.....                                      | Librarian                                           |
| LOWELL E. CONRAD, M. S. (Lehigh University).....               | Professor of Civil Engineering                      |
| JOHN H. MILLER, M. A.....                                      | Superintendent Farmers' Institutes                  |
| MISS MARGARET BUTTERFIELD.....                                 | Secretary                                           |
| WILLIAM R. LEWIS.....                                          | Custodian                                           |

### ASSISTANT PROFESSORS.

|                                                                       |                                               |
|-----------------------------------------------------------------------|-----------------------------------------------|
| JACOB LUND, M. S. (K. S. A. C.).....                                  | Superintendent Heat and Power Department      |
| ANDREY A. POTTER, S. B. (Mass. Inst. of Tech.).....                   | Asst. Professor of Mechanical Engineering     |
| ROBERT H. BROWN, B. M. (Kan. Con. of Music), B. S. (K. S. A. C.)..... | Asst. Professor of Music                      |
| GEO. A. DEAN, M. S. (K. S. A. C.).....                                | Assistant Professor of Entomology             |
| WILLIAM H. ANDREWS, A. B. (University of Chicago).....                | Assistant Professor of Mathematics            |
| ROBERT E. EASTMAN, M. S. (Cornell University).....                    | Assistant Professor of Forestry               |
| LELAND E. CALL, B. S. (Ohio State University).....                    | Assistant Professor of Soils                  |
| ROY A. SEATON, B. S. (K. S. A. C.).....                               | Assistant Professor of Mechanical Engineering |
| LEONARD W. GOSS, D. V. M. (Ohio State University).....                | Asst. Professor of Veterinary Science         |
| GEO. E. BRAY, M. E. (University of Minnesota).....                    | Asst. Prof. Mech. Engineering, Supt. of Shops |
| MISS ULA M. DOW, B. S. (K. S. A. C.).....                             | Assistant Professor of Domestic Science       |
| H. H. KING, A. B. (Ewing College).....                                | Assistant Professor of Chemistry              |
| JOHN B. WHELAN, M. A. (University of Nebraska).....                   | Assistant Professor of Chemistry              |
| C. O. SWANSON, M. Agr. (University of Minnesota).....                 | Asst. Prof. of Agricultural Chemistry         |
| ROBT. J. BARNETT, B. S. (K. S. A. C.).....                            | Assistant Professor of Mathematics            |
| LOUIS H. BEALL, A. B. (Denison College).....                          | Assistant Professor of English                |
| WILMER E. DAVIS, M. S. (University of Illinois).....                  | Assistant Professor of Botany                 |
| F. G. KING, B. S. A. (University of Missouri).....                    | Assistant Professor of Animal Husbandry       |
| K. W. STODDER, D. V. M. (Iowa State College).....                     | Assistant Professor of Veterinary Science     |

### INSTRUCTORS.

|                                                                    |                                  |
|--------------------------------------------------------------------|----------------------------------|
| Miss Ada Rice, B. S. (K. S. A. C.).....                            | Instructor in English            |
| Miss Ella Weeks, A. B. (University of Kansas).....                 | Instructor in Drawing            |
| Miss Daisy Zeininger, B. A. (Fairmount College).....               | Instructor in Mathematics        |
| Theo. H. Scheffer, M. A. (Cornell University).....                 | Instructor in Zoölogy            |
| L. D. Bushnell, B. S. (University of Michigan).....                | Instructor in Bacteriology       |
| M. Francis Ahearn, B. S. (Massachusetts Agricultural College)..... | Instructor in Horticulture       |
| Burton Rogers, D. V. M. (Iowa State College).....                  | Instructor in Veterinary Science |
| Kirk H. Logan, B. S. (University of Kansas).....                   | Instructor in Physics            |
| Miss Clara Willis (Framingham Normal Institute).....               | Instructor in Domestic Science   |
| Miss Ina Cowles, B. S. (K. S. A. C.).....                          | Instructor in Domestic Art       |
| Miss Gertrude Stump, B. S. (K. S. A. C.).....                      | Instructor in Domestic Art       |
| Miss Annette Leonard, A. B. (University of Kansas).....            | Instructor in English            |

(Board of Instruction concluded on last page.)

# THE INDUSTRIALIST

---

VOL. 36.

MANHATTAN, KAN., MARCH 12, 1910.

No. 19

---

## Some Horticultural Observations.

C. V. Holsinger, Horticulturist, Farmers' Institute Department.

Some time ago the writer received a letter from a well-known orchardist of this State in which he stated that he had been a grower for nearly fifty years, and could he commence business over again with his past experience he could make a success of the horticultural work. To the amateur grower who may be contemplating this work, this is not a very flattering outlook, and the gentleman who made the above remark is anything else but pessimistic. It only goes to show that careful study and attention to detail is absolutely necessary to successful fruit growing.

When the country was new nearly every home-maker made it a point to plant more or less fruit trees, and since then more have been planted from time to time. There is still plenty of room for improvement, for only a comparatively small per cent of Kansas farms have up-to-date farm orchards. Of those who planted orchards, many became discouraged, for which there are many reasons. The principal one is due to the fact that a great many orchardists became interested at a time when apples were bringing fancy prices. Along in the early '90's there were a few very heavy crops that brought top-notch prices. (At the same time corn, wheat and other crops were being grown at prices that were anything else but profitable.) The result was that large numbers of grain growers became interested and quite an acreage was planted. Since that time Kansas has had almost every kind of weather that any country has been afflicted with. But the last few years the frosty weather that came late in April and early in May has perhaps done more to discourage the amateur orchardist than most anything else.

The result has been such that those growers who were unprepared to take care of their orchards when they reached a state of fruitfulness have become discouraged and in some sections of the State are busily engaged in removing the trees.

In one section that the writer visited, growers made complaint



that apple buyers culled from forty to sixty per cent of fruit after growers had been to the expense of hauling the crop several miles to market. Upon investigation it was found that practically nothing was done to combat insects, pests, and fungus diseases; consequently a large per cent of the fruit was second class and was so classified. It apparently had not occurred to these growers that had they used up-to-date methods quite a large per cent of first-class fruit would have been obtained.

On the other hand, many of the most successful growers are as optimistic as ever and are prepared to go ahead with the work as though nothing had happened. Some have provided themselves with orchard heaters; nearly all have provided themselves with spraying outfits and will be better prepared to fight the fruit pests than ever before. The San José scale has stirred up growers in many parts of the State in a way that they never had been before. They have at last begun to realize that this insect, though not hard to combat, is so persistent that if not treated in time it will put the growers out of business.

Realizing the importance of combating this insect, a meeting was called by some of the enterprising growers in the eastern part of the State for the purpose of holding a spraying demonstration. More than 200 growers were present, some of them coming from a radius of 200 miles.

To be convinced that there is money in fruit growing for somebody one has only to buy apples. Probably less than half as many apples were grown the past year as compared with the crop of 1896, yet the selling price is four or five times as high as it was at this time fourteen years ago.

In a few orchards in various parts of the State some very fine fruit was grown last season in spite of the frosts. Ten thousand bushels were harvested from an orchard of seventeen acres in Leavenworth county, also some very fine Jonathans that came into the writer's possession were grown in Jewell county.

Under the present conditions it is almost impossible to oversupply the markets with a first-class article. Also, in order to raise a first-class article it is not necessary, as many seem to believe, to go to the arid regions or to the Alleghany mountains. It would be hard to find a locality where finer fruit is grown than in the Arkansas Valley of this State. A great many people are awakening to this fact and are acting accordingly.

The old winter varieties which seem to be giving the best results are Ben Davis, Missouri Pippin, York Imperial, Jonathan, and Grimes Golden, while the more promising new sorts are In-

gram, Delicious, and Slayman's Winesap. Commercially speaking, little if any attention has been given to summer sorts, though when grown in sufficient quantities to make it worth while they have been even more profitable than the winter sorts.

As to the outlook for a crop of fruit the coming year, the prospect is very good—it always is at this time of the year, for that matter. Peach buds were supposed to be all killed, but careful examination will show that in the eastern part of the State there is quite a good percentage left. Five per cent of buds is ample to insure a crop, everything else being equal. North of the Kaw river the crop will probably be very light, especially those sorts that are tender in bud. Examination at Baldwin showed fifteen per cent of the Elberta still alive, while in Wyandotte county from nothing to two per cent of this sort are in good condition.

Cold weather rarely affects the buds of the apple, pear, and cherry, and at the present time these seem to be, generally speaking, well supplied with fruit buds.

---

### **Samuel Dexter Houston Dead.**

Ex-Regent Samuel Dexter Houston, whose death was reported last week, was one of the pioneer settlers of Manhattan and one of the early "makers" of the Kansas State Agricultural College. He died on February 28 at the home of his daughter, Mrs. L. F. Parsons, at Salina, being nearly 92 years old. During the last dozen years he had retired from public life, and at the time of his death was almost forgotten, even in Manhattan, but during the early days of Kansas he was one of most influential men in the State. He was one of three survivors of the Wyandotte convention held in 1859, the two living members now being Benjamin F. Simpson, of Paola, Kan., and John T. Burris, of Olathe, Kan.

Samuel Dexter Houston was born in Columbus, O., in 1818, and before he reached his majority moved to Illinois with his parents, where he was educated. He came to Kansas in 1854 and settled on a tract of land about four miles west of Manhattan, known since as the Houston farm. His daughter, Mrs. C. A. Green, and her husband still reside upon the place. The government road to Ft. Riley from Leavenworth crossed the Blue at old Juanita, about a quarter of a mile below the present bridge at Rocky Ford, and passed through the Houston place close by the house and then crossed the hills to the Eureka Valley. A post-office was established at his home and called "Shannon," and it was there that the early settlers received their mail until Manhattan was laid out.



About 1857 the office was discontinued. In 1855 Mr. Houston was a member of the legislature from Riley county, being the only free state man that the Missourians permitted to be elected. This was the legislature that met in the first State capitol at Pawnee City, now within the Fort Riley reservation. The legislature was in session there three days and then adjourned to Shawnee Mission.

Those were war times, and the fight became so brisk that Mr. Houston resigned his seat in the legislature. He was a fighter for what he thought was best, and two years later was reelected and served the full term. He was then elected a member of the first State senate from Riley county and was the man who introduced the bill to locate the State University at Manhattan, the bill being vetoed by Governor Robinson. At that time the United States congress made a land grant of 90,000 acres for Kansas for the purpose of organizing an agricultural college, and Mr. Houston led the fight which resulted in locating the institution at Manhattan.

Mr. Houston was with John J. Ingalls and one or two others in the fight made for a rectangular boundary for the State of Kansas, and on the day the matter was put to a vote in the senate Mr. Houston offered an emendation to the bill providing that the outlines of the then territory should be the boundaries for the State. The amendment carried and the State was made to extend to the Colorado line. When he engaged in the history making of Kansas he determined that Kansas should be a prohibition state. He was one of the strongest supporters of Governor St. John, and stumped the State in the interest of the prohibition cause during the St. John campaign.

From 1863 to 1869 Mr. Houston was Regent of the Kansas State Agricultural College and in 1866 and 1867 the official land agent of the institution. In the following year President Lincoln appointed him registrar of the land office at Concordia, and it was while he held that office that he did much to build up Concordia. He then studied law and became afterwards one of the first practitioners in Saline county. He was not only a lawyer but farmed what was then one of the best farms in the county.

During the last few years of his life Mr. Houston was a student of the Bible. He read it several hours each day, and it is reported that at the time of his death he was engaged in writing a book on the "Atonement."

Unlike most men even twenty years his junior, he was active and every day walked two or three miles for the exercise. He even frequently went for a walk last winter when the roads were

covered with ice, and although he suffered a fall recently was uninjured.

In the early days the Houston home, located on Wildcat creek about three miles west of Manhattan, was noted for its wide hospitality, and as a starting point for many of the early settlers. Old-timers tell of visits back and forth, how the Houstons would load their children into a wagon, tie their old cow on behind, and drive across country for a visit of a day or two, there being nothing left at home that required attention. While a Regent of the Agricultural College Mr. Houston built on his farm a very handsome stone residence and a stately stone barn. The latter was for many years considered the finest barn structure in Kansas.

Of Mr. Houston's children, three have graduated from this College—Miss Luella M. Houston, '71, Mr. Ulysses Grant Houston, '81, and Mrs. Hortense L. (Houston) Martin, '83.

---

### Attention, Alumni!

There has been considerable discussion among some of the alumni of K. S. A. C. as to the advisability of their furnishing some money toward the building of the new athletic field, and the time is approaching when it seems advisable for some definite plan to be worked out.

The legislature of 1909 appropriated \$5000 toward the erection of a field, but they did not seem to realize that this would only be a drop in the bucket when the amount really needed was considered.

So far as is known at the present time, this field will be built in the southwest corner of the campus, where the ground is rough, and will require considerable grading. It is conservatively estimated by many that this \$5000 appropriated will hardly pay the expenses of the grading. Therefore, funds will have to be forthcoming before a suitable field can be built.

The Nichols' Gymnasium will be the most handsome one in the West, and the field which is to go with it should be equally creditable. The student body and Faculty are always loyal in their support of athletics and should not be asked to build the athletic field. The legislature in all probability will not appropriate any more money for athletics on account of the great demand for other things. Therefore it seems to be only reasonable that the alumni be called upon to bring forth the money necessary to make this field a credit to the College. It might be called the "Alumni Field."



There are several ways in which the alumni might produce this desired money. (1) The general Alumni Association could appoint a committee to make a campaign for subscriptions to be paid within one year; (2) the various sub-organizations, such as the one at Washington, D. C., Chicago, Topeka, Manhattan, etc., might do the same thing; (3) the various alumni classes could, through their present officers, carry on such a campaign and send to the committee of the Manhattan association a certain amount in pledges to be used in erecting something on the athletic field as a memorial to their class.

The '07 class has an alumni organization and some of its officers have suggested that the class give something in the name of the athletes who graduated in 1907, providing that such a thing would not conflict with any general donation toward an athletic field fund. It is desired that all '07's to whom such a thing might appeal write to Mr. E. G. Schafer, 908 Oregon street, Urbana, Ill., and give him their opinions.

It might also be well for other alumni to write to their friends and officers of their associations giving their opinions and suggestions for or against such a movement.

The graduates and former students of K. S. A. C. have never been called upon for financial help for athletics from their Alma Mater, and since other colleges and universities have been so greatly helped by their alumni, it does not seem unreasonable to ask for help from those who love old K. S. A. C.

This is an opportunity for every reader of this article to think of and correspond upon this subject and show the athletes that their efforts are appreciated.

A. G. PHILIPS, 1907.

---

## Learning by Doing.

That is the way—learn to do a thing by doing it. Dickens' old schoolmaster, Scrooge, had the idea, but his perverted nature kept him from putting into practice the idea as it should be put. Study, theory and practice form the triangle of success. Without the harmony and the working together of the three elements there ever remains something devoutly to be wished. We must study the theory to know, and then we must practice to know that we know. Perhaps the whole scheme of education lies in the proper adjustment of the triangular sides. And perhaps the reason for the failure of some graduates—and some who are not graduates—who pass out into the world of work and struggle is to be found in the absence of a nice balance of study, theory, and practice.

The Kansas State Agricultural College, in its Domestic Science Department, is adjusting the triangular sides to a nicety. The particular feature to which attention is called is designated as "the dinner work," and is one of the most interesting studies offered to young women anywhere in the United States.

The domestic science short-course students are divided into three groups, and then these are divided again into eight groups of four each. Each group consists of a cook, assistant cook, dishwasher, and waitress. The cook is in charge of the group, and as each girl holds her position one week and the group works four weeks, each gets a chance to be in charge of the operations. There are eight small kitchens, on two sides of a large central dining-room, in which are eight tables, one for each group.

At the beginning of each week the new cook is given \$4 with which she is to furnish five meals for four people, planning her meals under the supervision of her instructor, Miss Grace Woodward. The five meals consist of one three-course dinner, two three-course luncheons, one five-course dinner and one five-course luncheon, these meals being served at noon on regular College days.

Members of the Faculty are the lucky ones who can eat these "feasts," and the fact that some have been on the waiting list for a year before getting a place shows that it is not considered like a place on the government "poison squad."

The aim of the work is to give the young women a practical knowledge of the preparing of meals in a simple, dainty manner, and also to give them a practical knowledge of the cost and buying of food stuffs. Each cook has her own account-book, in which she keeps record of all cash supplies and department supplies used. By department supplies is meant the staple supplies kept in the storeroom. This storeroom is in charge of Miss Lindsey, an instructor, with whom the cooks settle every morning for the supplies used the day before. Each afternoon the cook goes down town to market to purchase the supplies she will need for her menu the next day. The kitchens are 8 by 8 feet, and each is equipped with china, silver and cooking utensils for serving four people. Also a utensil cabinet, china and linen cabinet, porcelain sink, gas range, and a work table.

It is a self-supporting course. The Faculty members each pay \$1.25 per week. The four dollars coming from the table goes to the cook, while the remaining dollar pays for table laundry, ice, etc. This allows two tablecloths, eight napkins, two center-pieces for the table, and two tray doilies. The table decorations come out of the \$4.00. The competition between the eight



kitchens seems to be to see who can serve the best and daintiest meals within the four-dollar limit. The final results show a range of from \$3.15 to \$4 for the cost of the week. The money not spent is returned to the department.

The preparation for this course includes a term's work in the theory of household management, which they are carrying out. The girls are scheduled to work from 10 o'clock a. m. to 1:50 p. m.

It is the custom of the College to take all its distinguished guests to the domestic science building for dinner, and whenever a speaker is invited to the College a gentle hint is made of the domestic science "feed" and he usually comes without urging.—*The American Educational Review.*

---

## Horse Judging at the Agricultural College.

The course in animal husbandry at the Kansas State Agricultural College is one of the most practical that is offered to the students of any institution. The students are given thorough instruction in all departments of animal care, breeding, nutrition, and judging. This work is rendered more practical by access to the College herd, which includes the four breeds of beef cattle, four breeds of dairy cattle, six breeds of swine, two breeds of horses, and three of sheep. The students are expected, also, to do practical work in the development and fitting of the show animals, with which the College has won numerous prizes in past years and with which it eclipsed all records at the International last December by securing the grand championship and reserve grand championship with this one small herd.

The work is supplemented by occasional trips to herds in the vicinity, where the live animals are judged on the hoof, and also by trips to packing-houses, where a study is made of the beef, pork, and mutton animals on the block. One of these trips has become an annual event. This is the one taken to Fort Riley each year for the purpose of giving the students of both the Animal Husbandry and Veterinary Departments opportunities to judge types of horses that are carefully selected by experts for cavalry and artillery service, and also to judge them for soundness.

The trip made by the students this year to Fort Riley was perhaps one of the most successful that has yet been conducted by the Animal Husbandry Department. About 500 students went up to the Fort on the special train provided for them and spent the day in judging the large stud of both artillery and cavalry horses and of baggage mules. They were accompanied by their instruct-

ors and were given a lecture by Doctor Jewell, the assistant veterinarian at the Fort. The doctor illustrated his lecture by leading into the ring ordinary types of army horses with which to illustrate the defects in conformation, and also perfect types which served to give the students the highest ideal of horses for these purposes. The students in the Veterinary Department were called upon to pick out the defects and blemishes, and all the horses submitted for their inspection.

It was found that all of the best types owned by the government at this point are thoroughbred or saddlebred and that this infusion of blood gives them the conformation and type required, but especially the spirit needed in such horses. One of the horses shown had been a prize winner at the New York Horse Show last fall and is now able to carry his rider over a six-foot hurdle. Another one is nineteen years old with a record of twelve years of service in the cavalry and of a trip from Fort Leavenworth to Fort Riley in record time. The officers demonstrated to the students the exact type that is needed by the government for such service, and as government buyers are very keen to secure the right type, and as Uncle Sam pays good prices, it is doubtless true that many of these boys will join the ranks of those who are now engaged in raising this type of horse. The facts are that when the government requirements are met by any breeder or owner he finds himself in possession of a superior animal that does not need to depend on the government buyers for his market. Such a type comes the nearest to being an all-around, useful animal of any that has yet been evolved in this country.—*Kansas Farmer*.

---

### **“Billy” Palmer Talks to Printers.**

W. C. Palmer, of the Jewell City *Republican*, addressed the students of the printing school of the Kansas Agricultural College last Thursday on the subject of “What Kind of a Foreman the Country Office Wants.” “Billy” Palmer, as he is generally called, is probably one of the most widely quoted country editors in Kansas. His paragraphs always attract attention. Over a quarter of a century ago he was a student here, and he took a few minutes to pay tribute to the superintendents and professors of the years gone by. Mr. Palmer in his address said in part:

“A country newspaper is a good paying proposition, and it can hold its job in spite of trusts, combines, or great metropolitan dailies. When it once gets hold of the hearts of the people it is there to stay. It is one of the small businesses that the trusts



cannot absorb, and that is an advantage worth considering." Then he pointed out the fact that a man on a great daily loses his individuality. "He is told what to think, what to write, what to support, how to treat each subject." In comparison with this, the country newspaper writer can have views and convictions of his own and can listen to his conscience. "He may have the joy of feeling that there has been put into his hands the means of helping many busy people to catch the true import of passing events and of reaching right conclusions."

He mentioned the fact that many editors of the State are growing gray and need young men to relieve them of the mechanical burden—young men who will gradually come in under the burden and let them gradually slip out; men who can rule the contrary gasoline engine; who can tell what is the matter when the job doesn't look right; who will look after the employer's interest and care for his property; men who can meet the customers cheerfully and can figure intelligently; men who will keep their minds and eyes on their work.

"The best way to make a newspaper pay is to forget about the pay in the absorbing effort to make a paper that will afford profit and enjoyment to the readers. If there is success here, the pay end will take care of itself."

He emphasized the point of neatness and complimented the students on the appearance of the College plant. Neatness, punctuality, system and honest work all came in for forceful mention, and he ended with the remark that he could not offer any suggestions that would help fit the students of the course for work in other offices except that they mind the superintendent, for if they succeed in pleasing him, there isn't a printer on earth but who would be satisfied with their work.—*L. B. M.*

---

Director Ed. H. Webster, of the Experiment Station, has sent to the State Printer manuscript for a bulletin on "A Quantitative Method for the Determination of Hardness in Wheat." This is a strictly technical bulletin dealing with the construction of scientific apparatus for determining the hardness of wheat kernels, prepared by Prof. H. F. Roberts, of the Botanical Department. It deals largely with mathematical formulas in arriving at the approximate number of grains of wheat that must be used to determine the hardness.

---

## Local Notes.

Winter term closes Friday, March 25, and spring term opens Tuesday, March 29.

President Waters went to Mankato to-day (Saturday) to address the Jewell County Teachers' Association.

The Board of Regents will meet on March 22 at the College. This meeting will take the place of the usual April meeting.

Professor Swanson was called away this week by the fatal illness of his father, who died Friday noon at his home in Paxton, Ill., at about eighty-five years of age.

Professor Kinzer was up at Brandon, Manitoba, this week to act as judge at the Brandon Mid-Winter Fat Stock Show. On his home trip he visited the Minnesota State Experiment Station.

Professor Kendall, of the Dairy Department, reports that he has many calls for butter makers, testers, creamery field men, and herdsmen, and that there are but few candidates for such positions.

The first inning of the annual two-mile country run was held March 9. Thirteen men competed and Loren Fowler came out first. There will be two more runs to decide who shall get the Hamilton medal.

The College athletic team closed its winter season Friday and Saturday of last week by taking two games from the Nebraska Wesleyans in the College Y. M. C. A. Gymnasium. The scores stood 46 to 27 and 54 to 14.

The College orchestra will give a concert in Marshall Theater next Tuesday. The organization has a membership of forty players this year and has been working hard to give a good program. Come out and enjoy the evening.

The Agricultural College corn train special concluded its itinerary on Saturday of last week, stopping at sixty-nine different towns enroute. The attendance was about twelve hundred a day. The speakers were Supt. J. H. Miller and J. G. Haney.

Notwithstanding the severe winter weather which visited us about once a week for the past three months, the health of the "College Family" has been very good. There were few cases of sickness among the two thousand students and hundred and fifty teachers.

The Dairy Department placed four milk cows in the advanced register during the past year. These animals have made annual records of very high credit. It is the intention of the department to have all of its cows qualified for advanced registry and not to keep others in the herd.

The Dairy Department will give this spring three more four-day courses in cream testing for the cream buyers of the State who wish to prepare themselves for the cream buyers' State examination. The dates for these courses are March 22 to 25, March 29 to April 1, and April 5 to 8.



Sec. F. D. Coburn, of the State Board of Agriculture, has written to Asst. A. G. Philips asking permission to reprint, in the March quarterly report of the State Board, the recent bulletin of the Poultry Department of the College Experiment Station on "Selection and Feeding of Laying Hens."

To-day, Saturday, March 12, is Corn Day in Kansas. This "day" was placed on the State calendar a year ago by the College Extension Department and was a grand success. It is expected that it will succeed this year. There will probably be a hundred or more corn breeders' and corn planters meetings this afternoon in that many towns in Kansas.

The principal of the Beaverhead county high school of Montana writes to Director Ed. H. Webster of this College: "Can you recommend a member of this years' class to take charge of our four-year course in agriculture? Our course has been in successful operation about four years and we graduate about one-fourth of our high school boys from this course."

Supt. J. H. Miller, of the College Extension Department, reports that the State has 282 organized farmers' institutes. He hopes to organize at least 18 more this summer and close the year with 300. Linn county heads the list with eight local institutes in addition to the county institute. Sumner county follows with six local institutes besides the county institute.

The Printing Department has just finished printing the schedule of classes for the spring term, and it is one of the neatest jobs ever turned out by the department. Some new type purchased especially for this use has assisted greatly in the result. The schedule involves a statement of the time for hundreds of classes and the latest form is believed to be the best yet used for presenting the data.

The annual exhibition of the Domestic Science and Art Departments and of the classes in color and design will be held during the closing week of the College term in the Domestic Science and Art Hall. The work of the classes in domestic science and in color and design will be on exhibition on Tuesday, March 22, and that of the classes in domestic art on Tuesday and Wednesday, March 22 and 23. Citizens of Manhattan and vicinity are invited.

The basket-ball season at K. S. A. C. closed last Saturday night, and, despite the handicaps that the Aggies have labored under, this season has been one in which games were won. But three games were lost, and of these three only one was a decisive defeat. One game was forfeited and another was won by the opposing team after five minutes of extra play to decide a tie. The chief handicap has been the small court that our team has been compelled to practice on. Being unused to a court of regulation size is a good reason for the two defeats of the Aggies away from home. This will continue to be a handicap only until the new gymnasium is completed. The making of a successful season in spite of hardships is all the more a credit to the '09-'10 Aggie basket-ball men. This paragraph is congratulatory to these men. —*Students' Herald.*

Pres. H. J. Waters attended and addressed the annual reunion and banquet of the alumni and ex-students of the College at Topeka on March 4, and at Kansas City on March 5. He found good attendance, fine spirit and much enthusiasm in both of these camps and, what is better still, he reports that the men and women who have gone out from this College are taking their places and are making good among the best workers wherever they go. The reunion at Kansas City was attended also by Professors Webster and Van Zile.

Last Saturday the news spread among the "College family" that Hon. John Elliot, of Manhattan, ex-Regent of this College, had died in his home just west of Carnegie Library. Mr. Elliot was 77 years and two months old. He had been a citizen of Manhattan for nearly forty years and had been a Regent of this College in 1881-'83. His funeral was very largely attended. Old friends, neighbors and business associates of more than half a lifetime all gathered to show their love and respect for the deceased. A short biography of Mr. Elliot will be published in the next INDUSTRIALIST.

Prof. Vernon M. Shoesmith, formerly assistant professor of agriculture here, has recently accepted the position of professor of farm crops in the Michigan Agricultural College. Mr. Shoesmith came here in the fall of 1901 and remained until January, 1907, when he accepted the position of agronomist of the Maryland Experiment Station. A year later he was made assistant professor of agronomy at the Ohio State University, where he remained until last month. Mr. Shoesmith is a graduate of the Michigan Agricultural College and he should be congratulated on the call he received to return to his alma mater. While at K. S. A. C. Mr. Shoesmith did good work for the Kansas Experiment Station. He has many friends here.—*Students' Herald*.

President Waters, Superintendent Rickman, and O. W. Weaver, student in the printing course and editor-in-chief of the *Students' Herald*, attended the meeting of the Kansas State Editorial Association at Wichita on Monday and Tuesday of this week. On Monday afternoon President Waters spoke on "The Editor and the College," and was well received. From comments made it is evident that the Kansas editors believe that in President Waters the State has a man thoroughly fitted to fill the position to which he has been called. Superintendent Rickman had charge of the entries made in seven of the contests. H. C. Sticher, of the *Belleville Telescope*, a special student in the Printing Department ten years ago, was elected president of the association for the ensuing year. Regent Blackburn was reelected recording secretary. The entertainment at Wichita eclipsed all former attempts. The meetings were held in the new Masonic Temple, which is considered the finest building of its kind in the world, and it is indeed a beauty. The attendance was the largest in years and the enthusiasm was unbounded. Much good is accomplished at these meetings.



## Board of Instruction (concluded from second page).

## INSTRUCTORS (Concluded).

William L. House.....Instructor in Woodwork, Foreman of Carpenter Shop  
 Louis Wabnitz.....Instructor in Machine Tool Work, Foreman of Machine Shop  
 Ambrose E. Ridenour, B. S. (K. S. A. C.).....Instructor in Moulding, Foreman of Foundry  
 J. H. Hollar.....Instructor in Forging, Foreman of Blacksmith Shop

## ASSISTANTS.

Miss Ina E. Holroyd, B. S. (K. S. A. C.), (K. S. N.).....Assistant in Mathematics  
 Miss Kate Tinkey.....Assistant Librarian  
 Earl N. Rodell, B. S. (K. S. A. C.).....Assistant in Printing  
 Chas. Yost.....Assistant in Heat and Power Department  
 Earle B. Millard.....Assistant in Machine Shops  
 J. T. Parker.....Assistant in Woodwork  
 E. G. Meinzer, M. A. (Olivet College).....Assistant in German  
 Hugh Oliver.....Assistant in Heat and Power Department  
 Miss Charlaïne Furley, B. A. (Fairmount College).....Assistant in English  
 Miss Jessie Reynolds, A. B. (University of Kansas).....Assistant in History  
 William C. Lane, B. S. (K. S. A. C.).....Assistant in Electrical Engineering  
 Miss Flora C. Knight, A. B. (University of Wyoming).....Assistant in English  
 Miss Grace H. Woodward (Boston School of Domestic Science).....Asst. in Domestic Science  
 Miss Margaret A. Mack (Kansas State Normal School).....Assistant in History  
 S. W. McGarrah, M. A. (Grove City College).....Assistant in Mathematics  
 C. A. Arthur Utt, M. S. (Cornell College).....Assistant in Chemistry  
 Miss Florence Warner, A. B. (University of Illinois).....Assistant Librarian  
 Miss Anna Gordon, A. B. (Iowa College).....Assistant in History  
 Miss Bertha M. Johnston (Simmons College).....Assistant in Domestic Science  
 Harrison E. Porter, B. S. (K. S. A. C.).....Assistant in Mathematics  
 J. B. Parker, M. A. (Ohio State University).....Assistant in Entomology  
 Allen G. Philips, B. S. (K. S. A. C.).....Assistant in Poultry  
 Miss Gertrude Cannon (Bethany College) (Oberlin Conservatory).....Assistant in Music  
 Miss Bertha Bisby.....Assistant in Mathematics  
 Fred M. Hayes, D. V. M. (K. S. A. C.).....Assistant in Veterinary Science  
 Miss Bertha Donaldson (University of Chicago).....Assistant in Domestic Art  
 Miss Elizabeth Putnam (Chicago Art Institute).....Assistant in Drawing  
 L. E. Petty, A. B. (Wabash College).....Assistant in Mathematics  
 Jules C. Cunningham, B. S. (K. S. A. C.).....Assistant in Horticulture  
 Miss Annie E. Lindsey (Simmons College).....Assistant in Domestic Science  
 Miss Amy Allen, B. S. (K. S. A. C.).....Assistant in Printing  
 John E. Smith, B. S. (Oregon Agricultural College).....Assistant in Botany  
 R. C. Wiley, B. S. (Oklahoma A. & M. College).....Assistant in Chemistry  
 Porter J. Newman, B. S. (Franklin College).....Assistant in Chemistry  
 C. E. Griffin, M. S. (University of Michigan).....Assistant in Chemistry  
 C. W. Nash, B. S. (Iowa State College).....Assistant in Crops  
 Chas. Doryland, B. S. (K. S. A. C.).....Assistant in Soils  
 R. C. Thompson, B. S. (K. S. A. C.).....Assistant in Chemistry  
 R. H. Wilson, D. V. M. (K. S. A. C.).....Assistant in Bacteriology  
 Miss Helen Huse, B. S. (K. S. A. C.).....Assistant in Domestic Science  
 E. F. Kubin, D. V. M. (K. S. A. C.).....Assistant in Veterinary Science  
 B. S. Orr, B. S. (K. S. A. C.).....Assistant in Mechanical Engineering  
 Elmer Johnson, B. S. (K. S. A. C.).....Assistant in Mechanical Engineering  
 A. B. Nystrom, B. S. (K. S. A. C.).....Assistant in Dairy Husbandry  
 A. Miyawaki, M. S. (K. S. A. C.).....Assistant in Experimental Dairying  
 Geo. C. Wheeler, B. S. (K. S. A. C.).....Farm Management, Farmers' Institute Department  
 C. V. Holsinger, B. S. (K. S. A. C.).....Horticulture, Farmers' Institute Department  
 P. E. Crabtree.....Farm Management, Farmers' Institute Department  
 Miss Frances L. Brown, B. S. (K. S. A. C.).....Domestic Science, Farmers' Institute Department  
 C. H. Hinman, A. B. (University of Nebraska).....Dairying, Farmers' Institute Department  
 W. S. Gearhart, B. S. in C. E. (University of Missouri).....Highway Engr., Farmers' Inst. Dept.  
 Miss Ethel Byerly, (Drexel Institute).....Assistant in Domestic Art  
 T. G. Patterson, B. S. (University of Minnesota).....Assistant in Animal Husbandry  
 Mrs. Jessie Gulick.....Assistant in Library  
 Miss Mary Mudge, B. S. (K. S. A. C.).....Assistant in Library  
 Miss Estella M. Boot, M. A. (Northwestern University).....Assistant in English  
 J. R. Jenness, B. S. (Denison College).....Assistant in Physics  
 Harry Evans, B. S. (Ohio State University).....Assistant in Entomology  
 Miss Ada Baum (Chicago Musical College).....Assistant in Music  
 Miss Ethel K. M. Ping (Sherwood Music School).....Assistant in Music  
 E. P. Johnston, A. B. (Oberlin College) (Emerson Coll. of Oratory).....Asst. in Public Speaking  
 Dean H. Rose, M. A. (Washington University, St. Louis).....Assistant in Botany  
 Miss Anna Monroe, B. S. (K. S. A. C.).....Assistant in Botany  
 Miss Madge Kay, B. S. (University of Chicago).....Assistant in Mathematics  
 C. A. Jackson, B. S. (Purdue University).....Assistant in Mathematics  
 D. O. Stone, C. E. (Cornell University).....Assistant in Civil Engineering  
 Paul W. Graff, B. S. (Connecticut Agricultural College).....Assistant in Botany  
 T. R. H. Wright, B. S. A. (University of Missouri).....Assistant in Animal Husbandry  
 L. A. Chase.....Assistant in History  
 Henry Wagner.....Assistant in Heat and Power  
 A. E. White, M. S. (Purdue University).....Assistant in Mathematics  
 H. W. Edson, A. M. (Harvard University).....Assistant in English  
 M. R. Bowerman, B. S. (Michigan Agricultural College).....Assistant in Mechanical Engineering  
 Frank C. Harris, B. S. (K. S. A. C.).....Assistant in Architecture and Drawing  
 Geo. A. Westphalinger.....Band Leader  
 Wm. A. Lamb.....Superintendent of Poultry Plant  
 Floyd Howard.....Farm Foreman

# THE INDUSTRIALIST

Historical Society

Vol. 36

Saturday, March 19, 1910

No. 20

*Issued Weekly By*  
**Kansas State Agricultural College**  
*Manhattan, Kansas*



~~~~~  
Published by
PRINTING DEPARTMENT
J. D. Rickman, Supt.

Entered at post-office, Manhattan, Kan., as second-class matter. Act of July 16, 1894.

In Memoriam.

At the January meeting of the Board of Regents the following resolution was adopted:

Resolved, That the Board of Regents of the Kansas State Agricultural College have met with an irreparable loss in the death of their co-worker, Colonel W. A. Harris.

Colonel Harris had been a Regent of this College but a few months before he was called upon to lay down the burdens and honors of the position, but the time was ample to demonstrate that he had that rare combination, an expert knowledge of livestock, animal nutrition, crop growing, and conservation of fertility, together with an intimate acquaintance with literature and history and legislation and men, coupled with the deepest concern for the welfare of the young people of the farm.

His counsel and guidance were especially valuable in the selection and securing of the new executive, President Waters, and his consideration of all matters that came before him as a Regent was such as to make increasingly apparent the wisdom of his selection for the place.

Resolved, That this expression of sorrow and appreciation of the Regents be entered upon the minutes of the Board and an engrossed copy of the same be sent to his family.

Done at the office of the Board at Manhattan, Kansas, this Fourteenth day of January, Anno Domini, Nineteen Hundred and Ten.

THE INDUSTRIALIST

VOL. 36.

MANHATTAN, KAN., MARCH 19, 1910.

No. 20

Kansas Wheat and Its Improvement.

L. A. Fitz, Division of Milling, Kansas State Experiment Station.

During these days when the cost of living is so great and the prices of our staple food products are soaring skyward—hogs at \$10 per hundredweight, cattle at \$8, and wheat at \$1.08 to \$1.25 per bushel—we are strongly inclined to take some thought for the morrow and to ask what will be the outcome, what remedy should be applied?

The cost of these staple articles is primarily regulated by supply and demand. As the demand increases we must increase the supply, or the price will rapidly advance. In order effectually to increase the supply within a given area an educational campaign is being conducted by our agricultural colleges and by the agricultural press. Better methods of farming are being advocated, the advantages of pure lines of breeding are being demonstrated, and much good along these lines is being accomplished, as is evidenced by the fact that so many eagerly avail themselves of the opportunities thus afforded them for better training and then go forth successfully to meet and solve life's problems.

That the scientific principles of breeding and selection can be successfully applied to the development of animals has long been recognized, but the fact that these same principles are applicable to plant breeding and development is of more recent discovery.

In cattle we develop a certain type for beef, another type for the dairy, and still another type for the dual purpose animal. We know that a certain ration is best for producing desired results with beef cattle, while a different ration should be used for dairy cows. We have even gone further than this. We now keep a record of each cow in a dairy herd and know how much feed is consumed, how much milk is produced, and what per cent of butter fat this milk contains. From such record we know what individuals in the herd are unprofitable and we speedily eliminate them.

The time has come when we must meet and solve our wheat problems in the same way. We already recognize that there are

certain distinct classes or types of wheat; that some of these are adapted to certain uses and meet the demands of certain trade, while others fill a distinctly different demand, satisfying the needs of certain other trade. By reason of this the wheats of our country naturally divide into the two great groups: *Soft wheat* and *hard wheat*.

On our terminal markets the comparative prices of grades within these groups fluctuate. Sometimes soft wheat brings a higher price than hard and sometimes the reverse is true. This depends upon the section of country a terminal market is supplying.

Primarily, Kansas is concerned with the production of hard red winter wheat. Kansas Turkey (or Kansas Turkey Red) wheat has, in recent years, become of vastly greater importance to the milling world, and each spring the eyes of the whole country are turned toward Kansas to see what her wheat crop promises to be. Just now the unusual amount of injury resulting from a severe winter is causing much speculation as to what the final outcome will be.

Only a few days ago one of the leading papers circulating in the State contained an article on Kansas wheat, but unfortunately the writer of this article had more knowledge of rhetoric than of the facts concerning which he wrote. The following quoted paragraph is especially misleading:

"But Kansas is not first in wheat. Its average of thirteen bushels to the acre is among the lowest of any wheat-producing country under the sun. Then there is the quality of Kansas wheat. It is very poor. It is becoming the despair of the millers. Kansas, in the role of Wheat Queen, trails her royal purple in the dust. Her fallen diadem lies rifled of each perfect gem. The steppes of Russia outdo her sunny fields. The frozen northwest, where icy blasts sweep down from Medicine Hat, shame her by producing the best wheat in the world."

Let us impartially examine some of these statements and see if statistics and experiments warrant such conclusions. From 1902 to 1908 the average yield of wheat per acre for Alberta, Saskatchewan, and Manitoba, with their vast extent of virgin prairie soil, has been 18.8 bushels. However, statistics fail to show what proportion of this wheat escapes injury from frost carried by these same "icy blasts sweeping down from Medicine Hat." Such injury frequently occurs, and of the crop of 1907 millions of bushels were rendered unfit for milling purposes by this frost injury.

In the older sections of Canada the average yield per acre is lower. In the province of Ontario it is 15.9 bushels. The average yield per acre in European Russia is only 9.3 bushels.

During the last ten years the total yearly production of wheat in Kansas has been ranging from about 54 million to 94 million bushels, with an average of over 78 million. Our average yield per acre is lower than it should be, but it has been improving. Instead of 13 bushels, as stated, it has been about 13.9 bushels per acre for the last ten years. The improved seed wheat that has been distributed throughout the State is undoubtedly beginning to have its effect.

It is interesting to compare the results secured at the Experimental Farm for Southern Alberta with seed wheat obtained from the Kansas Station and their own Alberta Turkey, or Alberta Red. At Lethbridge, Alta., the following yields were obtained with the crop of 1908:

	Yield per acre, bushels.
Turkey Red (No. 380, from Kansas).....	53.06
Kharkov (from Kansas).....	52.81
Turkey Red (Alberta grown)	43.93

The best yield of spring wheat obtained at this time was 35 bushels per acre.

As to the quality of Kansas wheat compared with the wheat of the Canadian Northwest we find in Bulletin 57 of the Ottawa Experimental Farm the following data:

CROP OF 1905.

No.	Variety.	Absorption, per cent.	Loaf Volume, c. c.	Form of Crust.	Texture.	Inside Color.	Baking Strength	Bread Value.
86	Red Fife (Ottawa)...	65.5	560	90	98	101	100	100
92	Turkey Red (Kansas)	63.5	550	102	98	97	101	100

CROP OF 1906.

109	Red Fife.....	62.0	567	96	101	101	102	102
103	Turkey (380).....	64.0	519	91	102	103	98	99
151	Turkey (Alberta).....	60.0	487	83	97	98	87	90

Also the following comment is made: "In No. 92 we have an excellent example of a winter wheat with a high protein content. This sample of Turkey Red, as grown in Kansas, is at least significant in showing that such wheats do exist, in spite of the commonly held view to the contrary."

Analyzing these results, we find that No. 103 Turkey grown at Ottawa from Kansas seed has given much better results than No. 151 Turkey grown in Alberta from Alberta seed, but neither sample is equal to No. 92 Turkey from Kansas. Furthermore, sample No. 92 Turkey grown in 1905 at Manhattan, Kan., compares very favorably with the sample No. 86 Red Fife, which is the very best wheat produced in the Northwest.

As long as Kansas wheat can make such favorable record in

comparison with northern grown spring Fife, Kansas millers will not despair. That they have been more than holding their own is shown by the warning sounded to Minneapolis millers by Mr. J. L. McCaul in an address given at the traffic association banquet in Minneapolis on March 1. He stated that: "Flour manufacturers in the Southwest have wrested from the Twin Cities trade located within a few hours ride of Minneapolis, and by fair means or foul are encroaching upon Minneapolis trade territory."

The improvement of Kansas wheat is not finished, but begun. Better seed has been distributed and better preparation of the seed-bed has been taught, but we must go further than this. We must study the milling and baking qualities of our wheat. If a wheat meets all requirements it must not only give a large yield per acre, but it must also produce a large per cent of flour, and this flour must be of good quality. The demand from Kansas today is for a strong flour, and we should be careful to maintain and improve the reputation of Kansas hard wheat.

The farmer must be taught not only to produce a good quality of wheat, but also properly to care for it after maturity until it is put upon the market. The injury resulting from weather damage in the shock is tremendous, and it means a direct money loss to the producer.

Kansas must have a well-equipped experimental milling and baking plant where these wheat problems can be worked out; where new varieties and importations can be tested; where the effect of different kinds of drainage and of soil and climate can be studied; and where the theory of milling and baking can be taught as well as such work can be taught in any school. Such step in Kansas wheat improvement is now being planned, together with a vigorous campaign to enlarge and improve the available supply of seed wheat. With proper support this work will go forward and Kansas will still continue in the forefront of the greatest and best wheat-producing sections of the world.

Contractor Walter Stingley has made an energetic start on the new Nichols Gymnasium the past three weeks. He has had over twenty-five men and about a dozen teams at work on the grounds. The sand men have started the delivery of sand and a force of men and teams are scraping earth off the top ledges of the College quarry. A large derrick has been erected for the stone yard, a tool and cement house has been built, and things have a progressive look at the south end of the campus.

Winter Schedule of Farmers' Institutes.

The College Extension Department has assisted in ninety-four organized farmers' institutes in as many towns in Kansas since January 1 of the present year. In addition to these there was a corn special over the Rock Island road for five days beginning with March 1. The train made sixty-five stops and had a total attendance of about 4000 farmers. The institutes were usually attended by two speakers from the College, and four speakers went with the corn train.

CIRCUIT NO. II.

Monday, January 17, Heriden. Holsinger.
 Tuesday, January 18, Hortonville. Holsinger.
 Wednesday, January 19, Valley Falls. Holsinger.
 Thursday, January 20, Winchester. Holsinger.
 Friday, January 21, McLouth. Holsinger.
 Tuesday, January 25, Baldwin. Holsinger and Long.
 Wednesday, January 26, Richmond. Holsinger and Long.
 Thursday and Friday, January 27 and 28, Gardner. Holsinger and Long.
 Saturday, January 29, Osawatomie. Holsinger and Long.
 Monday, January 31, Louisburg. Holsinger and Long.
 Tuesday, February 1, Parker. Holsinger and Long.
 Wednesday, February 2, Blue Mound. Holsinger and Long.
 Thursday, February 3, Kincaid. Holsinger and Long.
 Friday, February 4, Moran. Holsinger and Long.
 Saturday, February 5, Bonner Springs. Holsinger.
 Friday, February 11, Wathena. Holsinger and Headlee.
 Saturday, February 12, White Church. Holsinger and Headlee.
 Monday, February 14, Osage City. Holsinger and Brown.
 Tuesday, February 15, Hartford. Holsinger and Long.
 Wednesday, February 16, Chanute. Holsinger and Stanfield.
 Thursday, February 17, Toronto. Holsinger and Stanfield.
 Friday, February 18, Madison. Holsinger and Stanfield.
 Monday, February 21, Haven. Holsinger and Leidigh.
 Tuesday, February 22, Sylvia. Holsinger and Leidigh.
 Thursday, February 24, Bluff City. Holsinger and Watkins.

CIRCUIT NO. III.

Monday and Tuesday, January 17 and 18, LaCrosse. Wheeler and Davis.
 Wednesday, January 19, Ransom. Wheeler and Davis.
 Thursday, January 20, Utica. Wheeler and Davis.
 Friday and Saturday, January 21 and 22, Leoti. Wheeler and Davis.
 Monday and Tuesday, January 24 and 25, Tribune. Wheeler and Davis.
 Wednesday and Thursday, January 26 and 27, Scott City. Wheeler and Davis.
 Friday and Saturday, January 28 and 29, Dighton. Wheeler and Davis.
 Monday and Tuesday, January 31 and February 1, Ness City. Miller and Davis.
 Wednesday, February 2, Alexander. Miller and Davis.
 Thursday, February 3, Rush Center. Miller and Davis.

Monday, February 7, Ashland. Wheeler.
 Tuesday, February 8, Coldwater. Wheeler.
 Wednesday, February 9, Coats. Wheeler.
 Thursday, February 10, Bucklin. Wheeler.
 Friday, February 11, Meade. Wheeler.
 Saturday, February 12, Liberal. Wheeler.
 Monday, February 14, Santa Fé. Wheeler.
 Tuesday, February 15, Ulysses. Wheeler.
 Wednesday, February 16, Hugoton. Wheeler.
 Friday, February 18, Johnson. Wheeler.
 Saturday, February 19, Syracuse. Wheeler.
 Monday and Tuesday, February 21 and 22, Lakin. Wheeler and d'Allemand.
 Wednesday and Thursday, February 23 and 24, Garden City. Wheeler and d'Allemand.
 Friday, February 25, Cimarron. Wheeler and d'Allemand.
 Saturday, February 26, Spearville. Wheeler and d'Allemand.
 Monday, February 28, Jetmore. Wheeler.

CIRCUIT NO. IV.

Thursday, January 20, Whitewater. Hinman and Popenoe.
 Friday, January 21, Clearwater. Hinman and Popenoe.
 Saturday, January 22, Conway Springs. Hinman and Popenoe.
 Monday, January 24, Rago. Hinman and Popenoe.
 Tuesday, January 25, Cunningham. Hinman and Popenoe.
 Wednesday and Thursday, January 26 and 27, Pratt. Hinman and Popenoe.
 Friday and Saturday, January 28 and 29, St. John. Hinman and Popenoe.
 Monday, January 31, ———. Hinman and Popenoe.
 Tuesday, February 1, Nickerson. Hinman and Popenoe.
 Wednesday, February 2, Sterling. Hinman and Popenoe.
 Thursday, February 3, Lyons. Hinman and Popenoe.

CIRCUIT NO. V.

Thursday, February 10, Agra. Hinman and Ward.
 Friday and Saturday, February 11 and 12, Norton. Hinman and Ward.
 Monday and Tuesday, February 14 and 15, Oberlin. Hinman and Ward.
 Wednesday and Thursday, February 16 and 17, Atwood. Hinman and Ward.
 Friday and Saturday, February 18 and 19, St. Francis. Hinman and Ward.
 Monday and Tuesday, February 21 and 22, Goodland. Hinman and Ward.
 Wednesday and Thursday, February 23 and 24, Colby. Hinman and Ward.
 Friday, February 25, Jennings. Hinman and Ward.
 Saturday, February 19, Minneapolis. Miss Brown.
 Monday, February 21, Barnard. Miss Brown and Mr. Babcock.
 Tuesday, February 22, Delphos. Miss Brown and Mr. Babcock.
 Wednesday, February 23, Glasco. Miss Brown and Mr. Babcock.
 Thursday, February 24, Kirwin. Miss Brown and Mr. Babcock.
 Saturday, February 26, Lenora. Miss Brown and Mr. Babcock.
 Monday, February 28, Logan. Miss Brown and Mr. Babcock.
 Tuesday, March 1, Gaylord. Miss Brown and Mr. Babcock.
 Wednesday, March 2, Jewell. Miss Brown and Mr. Babcock.

CIRCUIT NO. VI.

Tuesday, January 18, Lucas. Miss Brown and Mr. Nielsen.
 Wednesday, January 19, Waldo. Miss Brown and Mr. Nielsen.

Thursday, January 20, Natoma. Miss Brown and Mr. Nielsen.
Friday, January 21, Plainville. Miss Brown and Mr. Nielsen.
Saturday, January 22, Morland. Miss Brown and Mr. Nielsen.
Monday, January 24, Bogue. Miss Brown and Mr. Nielsen.
Tuesday, January 25, Nicodemus. Miss Brown and Mr. Nielsen.
Wednesday, January 26, Oakley. Miss Brown and Mr. Nielsen.
Thursday, January 27, Sharon Springs. Miss Brown and Mr. Nielsen.
Friday and Saturday, January 28 and 29, Gove. Miss Brown and Mr. Nielsen.
Monday, January 31, Quinter. Miss Brown and Mr. Cunningham.
Tuesday and Wednesday, February 1 and 2, Wakeeney. Miss Brown and Mr. Cunningham.
Thursday, February 3, Ellis. Miss Brown and Mr. Cunningham.
Friday, February 4, Hays. Miss Brown and Mr. Cunningham.
Saturday, February 5, Wilson. Miss Brown and Mr. Cunningham.

School Gardens in Kansas.

Prof. H. D. Hemenway, of Northampton, Mass., is recognized as the father of the school garden movement in this country. His work in New England has been little short of the marvelous in the awakening of a higher civic life, the development of the love for beautifying the homes and towns. He has lectured all over the eastern half of the United States, at first showing with the stereopticon pictures of village homes in Europe, with occasionally an American home. Now he shows hundreds of pictures of homes of the middle classes and the wage workers of New England that are very beautiful; shows contrasts, as they were one spring and as they were in midsummer after the gardens had been planted to vegetables and the yard made beautiful with flowers and shrubs; shows pictures of scores of School Garden Clubs, awakened boys and girls who have learned the possibilities of the soil.

The Extension Department of the Kansas State Agricultural College has secured Professor Hemenway's services for two weeks, beginning April 11, and Mr. Miller, superintendent of extension work, expects to arrange meetings in ten or twelve towns and cities where public-spirited men and women are interested in getting this work started. The plan will be to visit in the morning of each day a few of the schools, to confer with teachers and with the commercial-club officers and with the officers of the women's clubs and the city officials relative to the best place for getting the work started. In the afternoon Mr. Miller and Professor Hemenway will be glad to address a meeting of all interested at 2 o'clock, and then at 4 o'clock Professor Hemenway will give a stereopticon lecture to both adults and the children, showing

what has been done elsewhere in the way of opening school gardens and in making a town beautiful. It is hoped that the interest will justify the closing of stores and places of business for a part of the afternoon in order that everybody may have a chance to hear the lecture and see the pictures.

Where connection for the next town will permit, an evening meeting may be held. Farmers with their families are cordially invited to attend these meetings. Dates will be made as soon as requests come in and a circuit can be arranged. Correspondence should be addressed to Superintendent Agricultural Extension, Manhattan.

Ex-Regent John Elliot Dead.

Ex-Regent John Elliot, of this College, whose death at his home in Manhattan was reported in the last number of the INDUSTRIALIST, was an old settler of Riley county, having been here about forty years. He was born January 9, 1833, in St. Lawrence county, northern New York, and spent the first of his life there, coming directly from there to Kansas in 1871. He engaged in the mercantile and live stock business here and was successful in all of his ventures, but retired from all business twenty-five years ago. He was married in 1856 and was the father of four children, two sons and two daughters, all of whom attended College. His wife and his sons, Willard S., and John E. Elliot, survive him.

Mr. Elliot, during his life in Manhattan, served on the board of county commissioners of Riley county, on the board of education of Manhattan, and on the city council. He was also a member of the Board of Regents of the Kansas State Agricultural College from 1881 to 1883, under the administration of Governor St. John. He always took an active interest in politics and in the affairs of his town, county and state, and was in all respects a public-spirited man. He was admired and well liked by all who knew him.

One of Mr. Elliot's distinguishing traits was his keen, dry humor and his love of a good joke. His interests were not entirely absorbed, however, by men and their affairs. The *Daily Manhattan Mercury* relates the following incident to characterize the man in his old age: "On a tree in his front yard he kept constantly a supply of food for the town squirrels, and in other trees he made provisions for their nests. As a consequence, his front yard was the social center for the squirrels of the town, and the interest he took in these little creatures was a delight to see." Mr. Elliot died at 2:30 on Saturday afternoon, March 5. Interment was made in Sunset Hill cemetery.

Ex-Regent John N. Limbocker Dead.

The present year has greatly reduced the number of ex-Regents of the College. Six former members of the Board have died within twelve months. The last death is that of the Hon. John N. Limbocker, of Manhattan, who was Regent of the institution in 1897-'99, under Governor Leedy. Mr. Limbocker expired on March 13, from heart failure, at the family home on the corner of Fourth and Leavenworth streets. He had been in his usual good health until Sunday, and none of the family had any thought that his life was approaching an end. The writer of this saw him on the street on Saturday. Sunday morning he attended the Christian church, and seemed to be as strong as usual. But when he had walked about half way home after the services he was seized with a sudden faintness, and had difficulty in reaching his residence. He went to bed at once and died in the evening.

The funeral occurred on Tuesday at the Congregational church. The services were conducted by Rev. A. E. Holt. The G. A. R. Post, of which the deceased was a member, had a prominent part in the funeral services, to show honor and respect to their departed comrade.

Mr. Limbocker was born in 1830, in Brownstown, Ind., where he grew to manhood. He learned the bookkeeper's occupation, and besides following this vocation he also taught school for a number of years. In 1854 he was married to Miss Mary June Bignell, of Brownstown, and to them were born four sons, Frank, Clyde, Clarence, and Myron. Three of these attended the Kansas State Agricultural College, and Myron graduated in 1895.

In 1859 Mr. Limbocker came to Kansas and preëmpted a quarter-section of land in the Elbow, Pottawatomie county.

During the Civil War Mr. Limbocker was captain of militia, and soon afterwards he was elected county clerk of Pottawatomie county and served for two terms. Subsequently he was also elected probate judge, and served two terms in that office. The county seat of Pottawatomie at that time was at Louisville, north-east of Wamego.

In 1869 Mr. Limbocker moved back to the farm, and lived on it for ten years, while the sons were growing to manhood. Then in 1879 he moved to Manhattan, where he has since made his home. He engaged in the real estate and loan business, and acquired considerable wealth by his various investments and transactions in mortgages and real estate. He also did an extensive insurance business, and led a most active life in business, seldom missing a

day. And this, notwithstanding the fact that before he emigrated to Kansas his health had been so broken by confining work that he had to be assisted on the train to make the trip. The western climate, and energetic outdoor work, caused him to regain his health and he lived to be 79 years old.

Baseball Schedule.

The schedule for the College baseball team for next spring term, as completed to date, is as follows:

Home games for which contracts have been signed are, April 2, Nebraska Wesleyan; April 5, Western Branch Normal; April 13, Nebraska University; April 14, Nebraska University; April 20, Fairmount College; April 23, Kansas Wesleyan; April 27, Ottawa. Home games that have been arranged but for which the contracts have not yet been signed are, April 16, Missouri Valley; April 29, Kansas State Normal; May 20, William Jewell College.

Two trips will be taken by the team. On May 24 it will go to Nebraska, playing Nebraska Wesleyan University, the Nebraska University, and possibly Cotner University. It will also take a trip about May 9 into Missouri. On this trip Missouri Valley College and William Jewell will be played, but the other games for the trip have not been definitely arranged.

Negotiations are under way for games at Manhattan with St. Marys, Haskell, Bethany, and one or two other teams. Two or more exhibition games will be played during the season with the Manhattan league team. It will be observed that the above schedule contains no games with the University of Kansas. Apparently athletic relations between the two big schools of the State have been severed. The reason for this is somewhat as follows: For the past season or two K. U. has been playing under the Missouri Valley Conference rules, while K. S. A. C. has continued under the somewhat more liberal Topeka Conference rules. The vital differences between the Missouri Valley rules and the Topeka rules are that the former limit the players to three years on a college team and prohibit summer baseball (not bad rules in themselves), while the latter extend the time a player can play on the varsity team to four years and permit summer baseball.

The College Extension Department has prepared a bulletin on silage and silo construction. The pamphlet will cover about seventy pages and will be mailed sometime this month.

Local Notes.

The Animal Husbandry Department shipped a car-load of sheep to Kansas City last Monday.

Miss Sabra Kennedy, private secretary to President Waters, who has been seriously ill, is able to be out again.

Prof. J. E. Kammeyer was one of the judges on delivery at the State oratorical contest at Wichita Friday of last week.

Senior Student Lou Aicher, who finishes his course at this College next week, has been elected to a position at the head of one of the Idaho experiment stations.

The secretary of agriculture of Transval, South Africa, recently ordered fifty bushels of our College seed wheat for distribution among the wheat raisers of that country.

Sec. Geo. Martin, of the State Historical Association, visited College last Wednesday. In the afternoon he addressed the Manhattan Grange at their Old Settlers' Day.

Asst. E. P. Johnston, of the Department of Public Speaking, gave a very fine talk on "International Peace and Its Progress" last Thursday morning in the Auditorium.

Miss Brown, of the College Extension Department, went to Russell Thursday evening to address the Golden Belt Teachers' Association. Her subject will be "Manual Arts in Rural Schools."

Professors Headlee and Dickens and Assistant Holsinger went to Iola, Thursday, to confer with the United States Government entomologists with regard to extensive plans for spraying of orchards.

The winter term closes Friday, March 25, and the spring term begins Tuesday, March 29. Examinations for admission will be held at 9 a. m. Monday, March 28. Commencement this year will be on June 16.

The concert given in the Marshall Theater by the College Orchestra, under the direction of Prof. R. H. Brown last Tuesday night, was a grand success. The program was rich and pleasing, the pieces were well rendered and the house was well filled and appreciative.

Prof. W. H. Andrews attended the high-school conference at Lawrence Friday of last week. He is a member of the committee on mathematics teaching, appointed by the Kansas State Teachers' Association for the purpose of defining the units in the mathematical subjects taught in the high schools.

Assistant C. H. Hinman, of the College Extension Department, was at Mulvane last week conducting a schoolhouse campaign in the interest of dairying and silo construction. About 200 farmers were in attendance and the course covered six days. This week Mr. Hinman gave addresses at Hiattville, Linwood, and Herington.

The College Extension Department is mailing a 25-page pamphlet entitled "Boys' and Girls' Contest Number, 1910," containing a report of the corn contest held at the College last winter, together with plans for the 1910 contest to be held in the different counties this year, and the State contest to be held at the College the week following Christmas.

L. A. Chase, assistant in history at this College, has prepared a number of interesting articles for *The School Review*, published by the University of Chicago, and the *Sewanee Review*, a leading periodical of the South. These articles will deal with a new method of teaching history, and with a hitherto undescribed phase of the history of the Civil War.

Senator E. M. Ammons, of Littleton, Colo., visited College last Tuesday. Mr. Ammons is president of the board of regents of the Colorado Agricultural College. He was especially interested in the work of our Experiment Station and the Animal Husbandry Department and reports that several students of their college intend to take postgraduate work at Manhattan next year.

Pres. H. J. Waters addressed the teachers of the Golden Belt Association at Russell on March 19. He is also on the program of the Northeast Teachers' Association for an address on April 7, at Seneca, and for the commencement address of the Kansas City Veterinary College on March 30. On April 1 he will speak to the students of the Kansas State University on "Some Common Mistakes of Students."

The present College year has chronicled the deaths of at least six ex-Regents of the Kansas State Agricultural College; namely, that of Gov. A. P. Riddle, of Minneapolis (Regent in 1896); Hon. T. P. Moore, of Holton (1885-'93); Hon. W. A. Harris, of Elmwood (1909); Hon. S. D. Houston, of Salina (1863-'69); Hon. John Elliot, of Manhattan (1881-'83); and Hon. John N. Limbocker, of Manhattan (1897-'99). It also witnessed the death of Ex-Professor Washington Marlatt, one of the founders and professors of Blue-mont College, which, in 1862, was presented to the State for locating the Agricultural College at Manhattan.

The seniors of the mechanical engineering course, accompanied by Prof. A. Potter, went to Rocky Ford last Tuesday afternoon to investigate the turbines and dynamos that have been installed there and to make measurements of the power obtained at that power station. They made the run out there with the auto truck wagon. The plant is located about $3\frac{1}{2}$ miles directly north of the College on the Blue river and is one of the finest in the West. It has from 400 to 800 available horse-power. The cement dam was built last fall and the turbines were installed this winter. A part of the power will be transmitted to Manhattan and a part used on the site. The company is at present installing the machinery for a corn-meal mill.

PRES. H. J. WATERS.....	Editor-in-Chief
DR. J. D. WALTERS.....	Local Editor
DR. J. T. WILLARD.....	Alumni Editor

BOARD OF REGENTS.

HON. W. E. BLACKBURN, President.....	Anthony
HON. J. O. TULLOSS ['99], Vice-President.....	Sedan
HON. EDWIN TAYLOR.....	Edwardsville
HON. ARTHUR CAPPER.....	Topeka
HON. A. L. SPONSER.....	Hutchinson
HON. TOM BLODGETT.....	Wichita
PRES. H. J. WATERS, Secretary <i>ex-officio</i>	Manhattan

BOARD OF INSTRUCTION

FACULTY.

HENRY J. WATERS, B. S. A. (University of Missouri).....	President
ED. H. WEBSTER, B. S. A. (Ia. S. C.), M. S. (K. S. A. C.).....	Director Exp. Sta., Dean of Agriculture
JOHN D. WALTERS, D. A. (K. S. A. C.).....	Professor of Architecture and Drawing
JULIUS T. WILLARD, D. Sc. (K. S. A. C.), Prof. of Chem. V.....	Director Exp. Sta., Dean of Science
BENJ. L. REMICK, Ph. M. (Cornell College).....	Professor of Mathematics
BENJ. F. EYEB, E. E. (Armour Institute of Technology).....	Prof. of Electrical Engineering
HERBERT F. ROBERTS, M. S. (K. S. A. C.).....	Professor of Botany
WILLIAM A. MCKEEVER, Ph. M. (University of Chicago).....	Professor of Philosophy
EDMUND B. MCCORMICK, S. B. (Mass. Inst. of Tech.).....	Prof. of Mech. Eng., Dean of Mech. Arts
ALBERT DICKENS, M. S. (K. S. A. C.).....	Professor of Horticulture, Supt. of Grounds
CLARK M. BRINK, Ph. D. (U. of City of N. Y.).....	Prof. of English, Dean of the Coll., Asst. to Pres.
ALBERT M. TEN EYCK, B. Agr. (University of Wisconsin).....	Prof. of Agronomy, Supt. of Farm
RALPH R. PRICE, M. A. (University of Kansas).....	Professor of History and Civics
JULIUS E. KAMMEYER, M. A. (Central Wesleyan College).....	Professor of Economics
JOHN V. CORTELYOU, Ph. D. (Heidelberg).....	Professor of German
OLOF VALLEY, B. M. (Chicago Conservatory).....	Professor of Music
F. S. SCHOENLEBER, D. V. S. (Chicago Vet. College).....	Professor of Veterinary Science
ROLAND J. KINZER, B. S. A. (Iowa State College).....	Professor of Animal Husbandry
WALTER E. KING, M. S. (Cornell University).....	Professor of Bacteriology
THOMAS J. HEADLEE, Ph. D. (Cornell University).....	Professor of Entomology
CHAS. H. BOICE, First Lieutenant Seventh Cavalry, U. S. A.....	Professor of Military Science
JOHN C. KENDALL, B. S. (New Hampshire A. & M. College).....	Professor of Dairy Husbandry
JOHN O. HAMILTON, B. S. (University of Chicago).....	Professor of Physics
MRS. MARY P. VANZILE, (Iowa State College).....	Prof. of Domestic Science, Dean of Women
JOSHUA D. RICKMAN.....	Superintendent of Printing
MISS MARGUERITE E. BARBOUR (Sargent Nor. Sch. Phys. Tr.), Director of Physical Training	
MISS ANTONETTA BECKER (Drexel Institute).....	Professor of Domestic Art
MISS GERTRUDE BARNES.....	Librarian
LOWELL E. CONRAD, M. S. (Lehigh University).....	Professor of Civil Engineering
JOHN H. MILLER, M. A.....	Superintendent Farmers' Institutes
MISS MARGARET BUTTERFIELD.....	Secretary
WILLIAM R. LEWIS.....	Custodian

ASSISTANT PROFESSORS.

JACOB LUND, M. S. (K. S. A. C.).....	Superintendent Heat and Power Department
ANDREY A. POTTER, S. B. (Mass. Inst. of Tech.).....	Asst. Professor of Mechanical Engineering
ROBERT H. BROWN, B. M. (Kan. Con. of Music), B. S. (K. S. A. C.).....	Asst. Professor of Music
GEO. A. DEAN, M. S. (K. S. A. C.).....	Assistant Professor of Entomology
WILLIAM H. ANDREWS, A. B. (University of Chicago).....	Assistant Professor of Mathematics
ROBERT E. EASTMAN, M. S. (Cornell University).....	Assistant Professor of Forestry
LELAND E. CALL, B. S. (Ohio State University).....	Assistant Professor of Soils
ROY A. SEATON, B. S. (K. S. A. C.).....	Assistant Professor of Mechanical Engineering
LEONARD W. GOSS, D. V. M. (Ohio State University).....	Asst. Professor of Veterinary Science
GEO. E. BRAY, M. E. (University of Minnesota).....	Asst. Prof. Mech. Engineering, Supt. of Shops
MISS ULA M. DOW, B. S. (K. S. A. C.).....	Assistant Professor of Domestic Science
H. H. KING, M. A. (Ewing College).....	Assistant Professor of Chemistry
JOHN B. WHELAN, M. A. (University of Nebraska).....	Assistant Professor of Chemistry
C. O. SWANSON, M. Agr. (University of Minnesota).....	Asst. Prof. of Agricultural Chemistry
ROBT. J. BARNETT, B. S. (K. S. A. C.).....	Assistant Professor of Mathematics
LOUIS H. BEALL, A. B. (Denison College).....	Assistant Professor of English
WILMER E. DAVIS, M. S. (University of Illinois).....	Assistant Professor of Botany
F. G. KING, B. S. A. (University of Missouri).....	Assistant Professor of Animal Husbandry
K. W. STODDER, D. V. M. (Iowa State College).....	Assistant Professor of Veterinary Science

INSTRUCTORS.

Miss Ada Rice, B. S. (K. S. A. C.).....	Instructor in English
Miss Ella Weeks, A. B. (University of Kansas).....	Instructor in Drawing
Miss Daisy Zeininger, B. A. (Fairmount College).....	Instructor in Mathematics
Theo. H. Scheffer, M. A. (Cornell University).....	Instructor in Zoology
L. D. Bushnell, B. S. (University of Michigan).....	Instructor in Bacteriology
M. Francis Ahearn, B. S. (Massachusetts Agricultural College).....	Instructor in Horticulture
Burton Rogers, D. V. M. (Iowa State College).....	Instructor in Veterinary Science
Kirk H. Logan, B. S. (University of Kansas).....	Instructor in Physics
Miss Clara Willis (Framingham Normal Institute).....	Instructor in Domestic Science
Miss Ina Cowles, B. S. (K. S. A. C.).....	Instructor in Domestic Art
Miss Gertrude Stump, B. S. (K. S. A. C.).....	Instructor in Domestic Art
Miss Annette Leonard, A. B. (University of Kansas).....	Instructor in English

Board of Instruction (concluded from second page).

INSTRUCTORS (Concluded).

William L. House.....	Instructor in Woodwork, Foreman of Carpenter Shop
Louis Wabnitz.....	Instructor in Machine Tool Work, Foreman of Machine Shop
Ambrose E. Ridenour, B. S. (K. S. A. C.).....	Instructor in Moulding, Foreman of Foundry
J. H. Hollar.....	Instructor in Forging, Foreman of Blacksmith Shop

ASSISTANTS.

Miss Ina E. Holroyd, B. S. (K. S. A. C.), (K. S. N.).....	Assistant in Mathematics
Miss Kate Tinkey.....	Assistant Librarian
Earl N. Rodell, B. S. (K. S. A. C.).....	Assistant in Printing
Chas. Yost.....	Assistant in Heat and Power Department
Earle B. Milliard.....	Assistant in Machine Shops
J. T. Parker.....	Assistant in Woodwork
E. G. Meinzer, M. A. (Olivet College).....	Assistant in German
Hugh Oliver.....	Assistant in Heat and Power Department
Miss Charlaire Furley, B. A. (Fairmount College).....	Assistant in English
Miss Jessie Reynolds, A. B. (University of Kansas).....	Assistant in History
William C. Lane, B. S. (K. S. A. C.).....	Assistant in Electrical Engineering
Miss Flora C. Knight, A. B. (University of Wyoming).....	Assistant in English
Miss Grace H. Woodward (Boston School of Domestic Science).....	Asst. in Domestic Science
Miss Margaret A. Mack (Kansas State Normal School).....	Assistant in History
S. W. McGarrah, M. A. (Grove City College).....	Assistant in Mathematics
C. A. Arthur Utt, M. S. (Cornell College).....	Assistant in Chemistry
Miss Florence Warner, A. B. (University of Illinois).....	Assistant Librarian
Miss Anna Gordon, A. B. (Iowa College).....	Assistant in History
Miss Bertha M. Johnston (Simmons College).....	Assistant in Domestic Science
Harrison E. Porter, B. S. (K. S. A. C.).....	Assistant in Mathematics
J. B. Parker, M. A. (Ohio State University).....	Assistant in Entomology
Allen G. Philips, B. S. (K. S. A. C.).....	Assistant in Poultry
Miss Gertrude Cannon (Bethany College) (Oberlin Conservatory).....	Assistant in Music
Miss Bertha Bisby.....	Assistant in Mathematics
Fred M. Hayes, D. V. M. (K. S. A. C.).....	Assistant in Veterinary Science
Miss Bertha Donaldson (University of Chicago).....	Assistant in Domestic Art
Miss Elizabeth Putnam (Chicago Art Institute).....	Assistant in Drawing
L. E. Petty, A. B. (Wabash College).....	Assistant in Mathematics
Jules C. Cunningham, B. S. (K. S. A. C.).....	Assistant in Horticulture
Miss Annie E. Lindsey (Simmons College).....	Assistant in Domestic Science
Miss Amy Allen, B. S. (K. S. A. C.).....	Assistant in Printing
John E. Smith, B. S. (Oregon Agricultural College).....	Assistant in Botany
R. C. Wiley, B. S. (Oklahoma A. & M. College).....	Assistant in Chemistry
Porter J. Newman, B. S. (Franklin College).....	Assistant in Chemistry
C. E. Griffin, M. S. (University of Michigan).....	Assistant in Chemistry
C. W. Nash, B. S. (Iowa State College).....	Assistant in Crops
Chas. Doryland, B. S. (K. S. A. C.).....	Assistant in Soils
R. C. Thompson, B. S. (K. S. A. C.).....	Assistant in Chemistry
R. H. Wilson, D. V. M. (K. S. A. C.).....	Assistant in Bacteriology
Miss Helen Huse, B. S. (K. S. A. C.).....	Assistant in Domestic Science
E. F. Kubin, D. V. M. (K. S. A. C.).....	Assistant in Veterinary Science
B. S. Orr, B. S. (K. S. A. C.).....	Assistant in Mechanical Engineering
Elmer Johnson, B. S. (K. S. A. C.).....	Assistant in Mechanical Engineering
A. B. Nystrom, B. S. (K. S. A. C.).....	Assistant in Dairy Husbandry
A. Miyawaki, M. S. (K. S. A. C.).....	Assistant in Experimental Dairying
Geo. C. Wheeler, B. S. (K. S. A. C.).....	Farm Management, Farmers' Institute Department
C. V. Holsinger, B. S. (K. S. A. C.).....	Horticulture, Farmers' Institute Department
P. E. Crabtree.....	Farm Management, Farmers' Institute Department
Miss Frances L. Brown, B. S. (K. S. A. C.).....	Domestic Science, Farmers' Institute Department
C. H. Hinman, A. B. (University of Nebraska).....	Dairying, Farmers' Institute Department
W. S. Gearhart, B. S. in C. E. (University of Missouri).....	Highway Engr., Farmers' Inst. Dept.
Miss Ethel Byerly, (Drexel Institute).....	Assistant in Domestic Art
T. G. Patterson, B. S. (University of Minnesota).....	Assistant in Animal Husbandry
Mrs. Jessie Gulick.....	Assistant in Library
Miss Mary Mudge, B. S. (K. S. A. C.).....	Assistant in Library
Miss Estella M. Boot, M. A. (Northwestern University).....	Assistant in English
J. R. Jenness, B. S. (Denison College).....	Assistant in Physics
Harry Evans, B. S. (Ohio State University).....	Assistant in Entomology
Miss Ada Baum (Chicago Musical College).....	Assistant in Music
Miss Ethel K. M. Ping (Sherwood Music School).....	Assistant in Music
E. P. Johnston, A. B. (Oberlin College) (Emerson Coll. of Oratory).....	Asst. in Public Speaking
Dean H. Rose, M. A. (Washington University, St. Louis).....	Assistant in Botany
Miss Anna Monroe, B. S. (K. S. A. C.).....	Assistant in Botany
Miss Madge Kay, B. S. (University of Chicago).....	Assistant in Mathematics
C. A. Jackson, B. S. (Purdue University).....	Assistant in Mathematics
D. O. Stone, C. E. (Cornell University).....	Assistant in Civil Engineering
Paul W. Graff, B. S. (Connecticut Agricultural College).....	Assistant in Botany
T. R. H. Wright, B. S. A. (University of Missouri).....	Assistant in Animal Husbandry
L. A. Chase.....	Assistant in History
Henry Wagner.....	Assistant in Heat and Power
A. E. White, M. S. (Purdue University).....	Assistant in Mathematics
H. W. Edson, A. M. (Harvard University).....	Assistant in English
M. R. Bowerman, B. S. (Michigan Agricultural College).....	Assistant in Mechanical Engineering
Frank C. Harris, B. S. (K. S. A. C.).....	Assistant in Architecture and Drawing
Geo. A. Westphalinger.....	Band Leader
Wm. A. Lamb.....	Superintendent of Poultry Plant
Floyd Howard.....	Farm Foreman

THE INDUSTRIALIST

Historical Society

Vol. 36

Saturday, March 26, 1910

No. 21

Issued Weekly By
Kansas State Agricultural College
Manhattan, Kansas



~~~~~  
*Published by*  
**PRINTING DEPARTMENT**  
*J. D. Rickman, Supt.*

Entered at post-office, Manhattan, Kan., as second-class matter. Act of July 16, 1894



# THE INDUSTRIALIST.

|                         |                 |
|-------------------------|-----------------|
| PRES. H. J. WATERS..... | Editor-in-Chief |
| DR. J. D. WALTERS.....  | Local Editor    |
| DR. J. T. WILLARD.....  | Alumni Editor   |

## BOARD OF REGENTS.

|                                                       |              |
|-------------------------------------------------------|--------------|
| HON. W. E. BLACKBURN, President.....                  | Anthony      |
| HON. J. O. TULLOSS ['99], Vice-President.....         | Sedan        |
| HON. EDWIN TAYLOR.....                                | Edwardsville |
| HON. ARTHUR CAPPER.....                               | Topeka       |
| HON. A. L. SPONSLER.....                              | Hutchinson   |
| HON. TOM BLODGETT.....                                | Wichita      |
| PRES. H. J. WATERS, Secretary <i>ex-officio</i> ..... | Manhattan    |

## BOARD OF INSTRUCTION

### FACULTY.

|                                                                                         |                                                     |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------|
| HENRY J. WATERS, B. S. A. (University of Missouri).....                                 | President                                           |
| ED. H. WEBSTER, B. S. A. (Ia. S. C.), M. S. (K. S. A. C.).....                          | Director Exp. Sta., Dean of Agriculture             |
| JOHN D. WALTERS, D. A. (K. S. A. C.).....                                               | Professor of Architecture and Drawing               |
| JULIUS T. WILLARD, D. Sc. (K. S. A. C.), Prof. of Chem. V.....                          | Director Exp. Sta., Dean of Science                 |
| BENJ. L. REMICK, Ph. M. (Cornell College).....                                          | Professor of Mathematics                            |
| BENJ. F. EYER, E. E. (Armour Institute of Technology).....                              | Prof. of Electrical Engineering                     |
| HERBERT F. ROBERTS, M. S. (K. S. A. C.).....                                            | Professor of Botany                                 |
| WILLIAM A. MCKEEVER, Ph. M. (University of Chicago).....                                | Professor of Philosophy                             |
| EDMUND B. MCCORMICK, S. B. (Mass. Inst. of Tech.).....                                  | Prof. of Mech. Eng., Dean of Mech. Arts             |
| ALBERT DICKENS, M. S. (K. S. A. C.).....                                                | Professor of Horticulture, Supt. of Grounds         |
| CLARK M. BRINK, Ph.D. (U. of City of N. Y.).....                                        | Prof. of English, Dean of the Coll., Asst. to Pres. |
| ALBERT M. TEN EYCK, B. Agr. (University of Wisconsin).....                              | Prof. of Agronomy, Supt. of Farm                    |
| RALPH R. PRICE, M. A. (University of Kansas).....                                       | Professor of History and Civics                     |
| JULIUS E. KAMMEYER, M. A. (Central Wesleyan College).....                               | Professor of Economics                              |
| JOHN V. CORTELYOU, Ph. D. (Heidelberg).....                                             | Professor of German                                 |
| OLOF VALLEY, B. M. (Chicago Conservatory).....                                          | Professor of Music                                  |
| F. S. SCHOENLEBER, D. V. S. (Chicago Vet. College).....                                 | Professor of Veterinary Science                     |
| ROLAND J. KINZER, B. S. A. (Iowa State College).....                                    | Professor of Animal Husbandry                       |
| WALTER E. KING, M. S. (Cornell University).....                                         | Professor of Bacteriology                           |
| THOMAS J. HEADLEE, Ph.D. (Cornell University).....                                      | Professor of Entomology                             |
| CHAS. H. BOICE, First Lieutenant Seventh Cavalry, U. S. A.....                          | Professor of Military Science                       |
| JOHN C. KENDALL, B. S. (New Hampshire A. & M. College).....                             | Professor of Dairy Husbandry                        |
| JOHN O. HAMILTON, B. S. (University of Chicago).....                                    | Professor of Physics                                |
| MRS. MARY P. VAN ZILE, (Iowa State College).....                                        | Prof. of Domestic Science, Dean of Women            |
| JOSHUA D. RICKMAN.....                                                                  | Superintendent of Printing                          |
| MISS MARGUERITE E. BARBOUR (Sargent Nor. Sch. Phys. Tr.), Director of Physical Training |                                                     |
| MISS ANTONETTA BECKER (Drexel Institute).....                                           | Professor of Domestic Art                           |
| MISS GERTRUDE BARNES.....                                                               | Librarian                                           |
| LOWELL E. CONRAD, M. S. (Lehigh University).....                                        | Professor of Civil Engineering                      |
| JOHN H. MILLER, M. A.....                                                               | Superintendent Farmers' Institutes                  |
| MISS MARGARET BUTTERFIELD.....                                                          | Secretary                                           |
| WILLIAM R. LEWIS.....                                                                   | Custodian                                           |

### ASSISTANT PROFESSORS.

|                                                                       |                                               |
|-----------------------------------------------------------------------|-----------------------------------------------|
| JACOB LUND, M. S. (K. S. A. C.).....                                  | Superintendent Heat and Power Department      |
| ANDREY A. POTTER, S. B. (Mass. Inst. of Tech.).....                   | Asst. Professor of Mechanical Engineering     |
| ROBERT H. BROWN, B. M. (Kan. Con. of Music), B. S. (K. S. A. C.)..... | Asst. Professor of Music                      |
| GEO. A. DEAN, M. S. (K. S. A. C.).....                                | Assistant Professor of Entomology             |
| WILLIAM H. ANDREWS, A. B. (University of Chicago).....                | Assistant Professor of Mathematics            |
| ROBERT E. EASTMAN, M. S. (Cornell University).....                    | Assistant Professor of Forestry               |
| LELAND E. CALL, B. S. (Ohio State University).....                    | Assistant Professor of Soils                  |
| ROY A. SEATON, B. S. (K. S. A. C.).....                               | Assistant Professor of Mechanical Engineering |
| LEONARD W. GOSS, D. V. M. (Ohio State University).....                | Asst. Professor of Veterinary Science         |
| GEO. E. BRAY, M. E. (University of Minnesota).....                    | Asst. Prof. Mech. Engineering, Supt. of Shops |
| MISS ULA M. DOW, B. S. (K. S. A. C.).....                             | Assistant Professor of Domestic Science       |
| H. H. KING, M. A. (Ewing College).....                                | Assistant Professor of Chemistry              |
| JOHN B. WHELAN, M. A. (University of Nebraska).....                   | Assistant Professor of Chemistry              |
| C. O. SWANSON, M. Agr. (University of Minnesota).....                 | Asst. Prof. of Agricultural Chemistry         |
| ROBT. J. BARNETT, B. S. (K. S. A. C.).....                            | Assistant Professor of Mathematics            |
| LOUIS H. BEALL, A. B. (Denison College).....                          | Assistant Professor of English                |
| WILMER E. DAVIS, M. S. (University of Illinois).....                  | Assistant Professor of Botany                 |
| F. G. KING, B. S. A. (University of Missouri).....                    | Assistant Professor of Animal Husbandry       |
| K. W. STODER, D. V. M. (Iowa State College).....                      | Assistant Professor of Veterinary Science     |

### INSTRUCTORS.

|                                                                    |                                  |
|--------------------------------------------------------------------|----------------------------------|
| Miss Ada Rice, B. S. (K. S. A. C.).....                            | Instructor in English            |
| Miss Ella Weeks, A. B. (University of Kansas).....                 | Instructor in Drawing            |
| Miss Daisy Zeininger, B. A. (Fairmount College).....               | Instructor in Mathematics        |
| Theo. H. Scheffer, M. A. (Cornell University).....                 | Instructor in Zoölogy            |
| L. D. Bushnell, B. S. (University of Michigan).....                | Instructor in Bacteriology       |
| M. Francis Ahearn, B. S. (Massachusetts Agricultural College)..... | Instructor in Horticulture       |
| Burton Rogers, D. V. M. (Iowa State College).....                  | Instructor in Veterinary Science |
| Kirk H. Logan, B. S. (University of Kansas).....                   | Instructor in Physics            |
| Miss Clara Willis (Framingham Normal Institute).....               | Instructor in Domestic Science   |
| Miss Ina Cowles, B. S. (K. S. A. C.).....                          | Instructor in Domestic Art       |
| Miss Gertrude Stump, B. S. (K. S. A. C.).....                      | Instructor in Domestic Art       |
| Miss Annette Leonard, A. B. (University of Kansas).....            | Instructor in English            |

(Board of Instruction concluded on last page.)

# THE INDUSTRIALIST

VOL. 36.

MANHATTAN, KAN., MARCH 26, 1910.

No. 21

## Plant Breeding.

H. F. Roberts, Professor of Botany (in *Kansas Farmer*).

The era of plant breeding has only begun. We are scarcely more than entered upon the threshold of the age of plant improvement. When we look abroad over the vast world of plants and see the immense resources that still lie hidden and untouched for lack of men and money and intelligence to study their uses, we find little of which to boast in the progress that we have made in the improvement of agriculture through the breeding of plants. Most of our advances in this direction have been a series of stumbling, blundering accidents, like the discovery of the Concord grape in Massachusetts or of the seedless orange in Brazil. Yet these two discoveries alone are of what immense value to mankind.

As a matter of fact, up to the most recent times, we have made no conscious, intelligent, well-directed efforts toward the breeding of improved races of plants. The little that has been done has been so much talked and written about and so extensively advertised that people have come to think that the human race has the resources of the plant kingdom pretty well in hand. But this is not so. It is not more than ten years since the re-discovery of Mendel's experiments, which opened up to us the true nature of hybrids. It is no longer ago than 1901 that the epoch-making discoveries of De Vries concerning mutation in plants were first published. It is only within the last five years or so that plant breeding in any definite, logical, scientific sense, became a part of the business of the American experiment stations. It is only within the very latest years indeed, that the stations have begun to employ investigators in that special field. To the writer's knowledge only one university (Cornell) maintains as yet a chair of plant breeding.

I have said that little progress in the improvement of plants has been made in the past. The reason is clear. People did not know—scientists did not know—the fundamental laws underlying breeding, until Mendel's papers became known. The domain of plant hybridization remained, until then, an utter chaos of contradictions, a hopeless mess of confused details. Out of the rubbish of



this ignorance we are now arranging and sorting out useful facts in accordance with definite laws. We do not all agree yet as to the reasons for the laws, but there is no dispute about the laws. We now know that everything that we expect to get in the breeding of plants must depend ultimately on the laws governing the behavior of crosses. We go out into the field, and find, discover, or select, a "superior" plant of any kind whatever. How did it get its characters that make it "superior?" It got them from its parents, and the characters were somehow shuffled together in the cross.

While therefore the plant breeder has to keep his eyes open and alert to discover what nature has already produced in this way, his larger business is going to be to create consciously these new forms. That is what, in the domain of fruits and ornamental flowers, Mr. Burbank has done and is doing in California. That is what Professor Hansen of South Dakota, who will some day rank as one of the greatest benefactors of the West, is doing in his inclement climate, which rejects the strawberry, the peach, the cherry, and even the ordinary apple. But Hansen found the humble sand-cherry, which only birds and boys and other wild animals eat, and by crossing this hardy plant with all sorts of our best cherries and plums he has succeeded in bringing into existence hardy cherries and plums for the bitter cold Northwest, that rival in size and flavor the tender sorts. The same he has done for the strawberry by making crosses upon the wild strawberry, and so on. Some day the whole Northwest will be planted with his fruits, and the inhabitants will give the full measure of praise to this most modest and unassuming and retiring investigator.

Far down in Texas lives an old man, a gentleman of the old school, T. V. Munson, the great American authority on grapes, and the greatest breeder of the grape we have yet produced. In the study of this plant he has spent a lifetime, and in the new and superior sorts of grapes Munson has produced, he will be remembered long after most of our politicians and multi-millionaires have been forgotten.

And so one could go on naming one after another the men who are devoting themselves to one of the most beneficent of human occupations—that of the moulding of new races of plants for the use of man.

Now, for the most part, the plant breeder must either languish in neglected obscurity, and make the breeding of plants a side issue, to be cultivated incidentally out of spare moments in the day's occupation, or else, on the other hand, he must suffer like

Burbank, the fate of becoming an exploited monstrosity, a "wizard," who merely has to wave some kind of a magic wand to set the whole plant world topsy-turvy, and cause new and astonishing races of plants to issue in phalanxes from his ark. The industry of the snap-shot reporters, whose ignorance of the laws of plants is made up for by their liberal use of adjectives, has been responsible for the creation of the "wizard" idea in plant breeding, and for the making of wizards themselves.

Now to come down to Kansas, which is the particular rectangle on the planet that we happen to inhabit, what can we do here and now to improve the plants that we grow here, and how are we going to do it? For some four years the present writer has been endeavoring to make progress in this direction, and although, like most of the other breeders of plants in our experiment stations, he has had many additional duties to fulfill, yet something substantial has been accomplished. The writer believes, therefore, that he is at least tolerably well prepared to answer the inquiry of the editor of the *Kansas Farmer*, as to what the Kansas Experiment Station has done and can do, and is going to do to improve our plants. By selection alone, Professor TenEyck has done an inestimable service in purifying the various races of corn, sorghum, Kafir-corn, and wheat. Thousands of bushels of these grains in many different varieties have thereby gotten into the hands of farmers in better and purer condition than they could have been had from any other source. Increased yields in all these crops have been reported all over the State by growers of Professor TenEyck's selected races of cereals.

The present writer has confined his work of breeding hitherto to wheat and alfalfa, and has now in progress of increase several hundred absolutely pure-bred races of wheat, some of which are ultimately going to replace the wheat now being grown. These pure-bred races of wheat the writer has obtained by the selection of one single head as the progenitor of each race. This summer's harvest will give us seed for the milling and baking tests, which the new department of experimental milling is going to handle. The public may be interested to know that we are also engaged in rearing pure-bred strains of the yeast plant for the tests of the rising quality of the gluten. We want to make all of the conditions for this experiment as uniform as possible. The writer ought to say further that aside from selecting and rearing pure-bred wheat by selection, he is now growing the first generation of wheat hybrids made between the pure-bred strains. This work of hybridization is going to be the most important end of our wheat breeding



work. By selecting and growing pure races of wheat, we get the material for important crosses, and we now know enough about the laws governing wheat crosses to operate intelligently and to advantage—something impossible in the past.

In alfalfa, we have over a dozen pure-bred strains, each of which dates back to a single close-pollinated alfalfa plant. In a preliminary test of their relative forage yield, we find two of them to be immensely superior to all of the others. These will be extensively propagated. The field of alfalfa breeding by systematic and intelligent crossing is a new one, and we expect to enter extensively into this work this summer. The writer has quite an array of species and varieties of alfalfa now available for this purpose. We need more drouth-resistant alfalfas for the far west, and we need new races that are resistant to leaf-spot and root-rot and other diseases for the eastern part of the State. We are trying to breed these, and we will ultimately get them.

In fact, in the McIntyre alfalfa, discovered by Senator Taylor, we already have a drouth-resistant strain, now increased to a considerable number of plants, from which this summer we shall make thousands of cuttings to be rooted in the greenhouse and planted at the Ft. Hays Branch Station.

The results of the writer's past breeding work with wheat and alfalfa have been recorded from time to time in station bulletins printed and in the press; and in various newspaper articles. It will not be necessary, therefore, to allude to these experiments further. It is sufficient to say that this work has now reached the practical field stage.

The public will probably be interested, however, in the new work we are taking up this spring.

In southeastern Kansas is a great area where a layer of hard-pan prevents the deep tap root of alfalfa from going down. Within two or three years, alfalfa planted on this soil dies out. The proper legume for this soil is sweet clover, which grows rankly, and has exactly the same feeding value as alfalfa; is a shallow rooted biennial, and consequently is not restricted by the soil conditions, is as rich a soil fertilizer as alfalfa, is an everlasting grower. Nevertheless, occasional exceptions to the contrary notwithstanding, this rich, luscious, succulent legume, is sedulously avoided by most grazing animals. Why? Because the leaves and stalks are bitter with the alkaloid cumarin. How can we get rid of this cumarin? Maybe we can find a cumarin-free race of sweet clover, just as we have found thornless honey-locusts, seedless oranges and persimmons and so on. It is not incredible to be-

lieve that somewhere there is a sweet clover plant that can get along without its cumarin. Well, we want everybody in the country in Kansas to help us find this plant. In the meantime the writer is getting together all of the 50 to 60 species of the sweet clover group that he can lay his hands upon, through importation from dealers and seed collectors and through the office of Seed and Plant Introduction at Washington. Perhaps some one of these may be devoid of cumarin. If so, it will be crossed upon the sweet clover itself and we will see what we can do with the hybrids. The writer is also going to see what can be done with alfalfa-sweet clover crosses. Perhaps we can get out of the difficulty in that way. It is a very interesting problem, and we are going to do our best to solve it somehow.

There is one problem in relation to corn that is going to be worked upon this summer, the production of a more drouth-resistant race for western Kansas. Just exactly what the plans are cannot be made public as yet, but it is sufficient to say that the plan is a rational one, scientifically promising. Indeed it is actually the first time that it has really become possible to improve corn in this direction, along scientific lines of breeding. The experiments will be conducted at the Hays Branch Station.

There are also under way in the writer's hands, some lines of work for the improvement of the cow-pea and the soy-bean to make them both more practically useful plants than they now are. Great possibilities underlie these two species of agricultural plants, and we are going to work upon them.

A wealth of unharvested opportunities for breeding lie concealed, and not deeply concealed either, in the sorghum tribe. Three lines of breeding open up here—for syrup, for fodder, for seed, and for broom-fibre. In the welter of hundreds of 'varieties' of saccharine and non-saccharine sorghums, well defined types are beginning to emerge, and in some cases are getting pretty well established along these four principal lines of value. We need to get into these strains and see what can be done to further improve them and how.

In a word, there is not a single agricultural species that we are growing in Kansas that cannot be improved. The people of Kansas should give this station enough money to enable a division of plant breeding to be definitely established, so that men can spend their lives at this work and at this work alone. Then, and then only, we will realize the full measure of progress. At present, we are doing the best we can under our limitations. Our work and our plans the writer has to some extent laid before you.



## Schedule of Classes, Winter Term, 1910.

(Showing Instructors, Class Periods (bold-face), and Numbers in Classes. Departments are arranged alphabetically.)

### Agronomy.

Professor TenEyck: **2**, Crop Production II, alt. das., 15. **2**, Farm Management, alt. das., 39. **5-6** Sat., Farm Management Lab., 41. **1-4** Mon., Farm Management Lab., 41.  
 Assistant Professor Call: **1**, S. C. Crop Production, 166. **4**, Soil Physics, 62. **1-4** Mon., Soil Physics Lab., 20. **5-8** Tu., 20. **5-8** Th., 21. **5** W+F, S. C. Soil Management, 22.  
 Assistant Doryland: **1**, Agriculture, 32. **2**, Agriculture, 44. **3-4**, S. C. Soil Physics W+F, 26; T+T, 23.  
 V. C. Bryant: **3-4**, S. C. Grain Judging, T+T, 66; W+F, 70; Sat., and **5-6** Mon., 41.  
 H. L. Cudney: **5**, S. C. Crop Improvement, T, T, S., 22. **6-7**, S. C. Crop Judging, 45. **6-8** T+T, Crop Production II Lab., 15.  
 Floyd Howard: **1-4** Mon., S. C. Farm Mechanics, 181.

### Animal Husbandry.

Professor Kinzer: **1**, S. C. Breeding Live Stock, 57. **2**, Live Stock Management, alt. das., 14. **5-6** T+T, Pedigrees, 16.  
 Assistant Professor King: **1**, S. C. Feeding Live Stock, 66. **2**, S. C. Live Stock Production, T, W, F, 182.  
 Assistant Patterson: **2**, S. C. Live Stock Production, T, S, 182. **3-4**, S. C. Stock Judging, T+T, 65; W+F, 84. **5**, S. C. Pure Bred Herd, F+S, 22. **5-8** Mon., S. C. Stock Judging, 31.  
 Assistant Wright: **5**, S. C. Pure Bred Herd, T, W, T, 22. **6-7**, S. C. Stock Judging, T+T, 51.

### Architecture.

Professor Walters: **1**, Public Buildings, 20. **2**, Specifications and Contracts, 16. **3**, Trusses, 6. **4**, Architectural Drawing, 7. **5-6**, Architectural Drawing I, W+F, 17; Architectural Composition II, T, T, S, 24. **1-4** Mon., Mural Decoration, 15.  
 Instructor Weeks: **1-2**, Object Drawing, 16. **3-4**, Color & Design II, T+T, 10; W+F, 16. **5-6**, Color & Design I, W+F, 16. **1-4** Mon., Color & Design II, 48. **5-8** Mon., Home Decoration, 39.  
 Assistant Putnam: **1-2**, Object Drawing, W+F, 11. **3-4**, Object Drawing, T+T, 11; W+F, 20. **5-6**, Object Drawing, T+T, 30; W+F, 38. **1-4** Mon., Color & Design I, 28. **5-8** Mon., Object Drawing, 73.  
 Assistant Harris: **1-2**, Geometrical Drawing, T+T, 5; W+F, 14. **3-4**, Geometrical Drawing, T+T, 6; W+F, 9. **5-6**, Geometrical Drawing, T+T, 39. **5-6**, Descriptive Geometry, W, F, alt. Sat., 37. **1-4** Mon., Perspective I, 29. **5-8** Mon., Descriptive Geometry Lab., 40.  
 Miss Morton: **1-2**, Freehand Drawing, T+T, 18. **3-4**, F. H. Drawing, T+T, 28. **5-6**, F. H. Drawing, T+T, 19; W+F, 23. **1-4** Mon., F. H. Drawing, 38. **5-8** Mon., Geometrical Drawing, 39.

### Bacteriology.

Professor King: **2**, Bacteriology II, alt. das., 18; 24. **5-6**, Bacteriology II Lab., W+F, 14; S+M, 18.  
 Assistant Bushnell: **1**, Bacteriology III, alt. das., 10. **1-2**, Bacteriology III Lab., two das., 10. **4**, S. C. Bacteriology, 3. **7-8**, Bacteriology II Lab., W+F, 12.

### Botany.

Professor Roberts: **3-4**, S. C. Agricultural Botany, T+T, 15.  
 Assistant Professor Davis: **1**, Plant Physiology, 31. **3**, Botany II, 54. **5-6**, Plant Physiology Lab., W+F, 31.  
 Assistant Smith: **1**, Botany I, 32. **3-4**, S. C. Agricultural Botany W+F, 19. **6**, Botany I, 43.  
 Assistant Rose: **1**, Botany II, 54. **2**, Botany I, 33. **5-6**, Botany II Lab., Tu., 21; Th., 23; Sat., 24.  
 Assistant Monroe: **1-2**, Botany II Lab., Sat., 19, Mon., 14. **3-4**, Botany II Lab., Sat., 28; Mon., 20. **6**, Botany II, 39.  
 Assistant Graff: **1-2**, Botany II Lab., Tu., 15; Th., 16. **4**, Botany I, 49. **5**, Botany II, 35.

### Chemistry.

Professor Willard: **4**, Animal Nutrition, alt. das., 59.  
 Assistant Professor King: **1**, Chemistry I & II, 37. **2**, Inorganic Chemistry II, 9. **3**, Chemistry I & II, 54. **5**, Chemistry I & II, 32.  
 Assistant Professor Whelan: **1**, Chemistry I, 45. **2**, Chemistry I & II, 42. **3-4**, Chemistry III Lab., T+T, 32; W+F, 13. **6**, Chemistry I & II, 21.  
 Assistant Professor Swanson: **4**, S. C. Dairy Chemistry, alt. das., 3. **5-8** Sat., and **5-6** Mon., Agricultural Chemistry Lab., I, 6. **5-8** Mon., Agricultural Chemistry Lab., II, 18. S+M, Quantitative Analysis, 11.  
 Assistant Newman: **1-2**, Chemistry I Lab., T+T, 11; W+F, 12. **3**, Chemistry I, 53. **4**, Chemistry I & II, 27. **5-6**, Chemistry I & III Lab., T+T, 59; W+F, 54. (Assisted by Mr. Thompson.)  
 Assistant Thompson: **5-6**, Chemistry I & III Lab., T+T, 59; W+F, 56. (With Mr. Newman.)  
 Assistant Griffin: **1-2**, Chemistry I & III Lab., T+T, 31; W+F, 38. **3-4**, Chemistry I & III Lab., T+T, 18; W+F, 23. **5**, Chemistry II & III, 65. **6**, Chemistry I, 18.  
 Miss Lewis: **3-4**, Chemistry I Lab., T+T, 7; W+F, 11. **5-6**, Chemistry I Lab., T+T, 31; W+F, 19.

**Civil Engineering.**

Professor Conrad: 1, Hydraulics I, 22. 2, Railway and Highway Engineering, 11. 7-9, W+F, Civil Engineering Drawing IV, 10. 8, Tu., Surveying III, 27. 9, Tu., Surveying II, 19. 1-6 Mon., Railway and Highway Engineering Lab., 11.

Assistant Stone: 2, Spherical Trigonometry and Astronomy, 18. 4, Hydraulics, E, 17. 7-9, Civil Engineering Drawing I, W+F, 22. 8-9, Surveying II & III, Th., 27. 1-4 Mon., Surveying VI, 18.

**Dairy Husbandry.**

Professor Kendall: 5, Dairy Farming, 118. 6-7, Judging Dairy Stock, T+T, 23; W+F, 28.

Assistant Nystrom: 1, S. C. Creamery Management, Dairy Mechanics and Refrigeration, 4. 2, Cheese Making, alt. das., 9. 3, S. C. Butter Making, 6. 5-8, S. C. Butter & Cheese Making, Ice-cream Making, and Judging Dairy Products, T, W, T, F, 6. 6-7 (with Mr. Estel), S. C. Dairy Lab., T+T, 51; W+F, 48. 5-8 Mon., Cheese Making Lab., 11.

Assistant Philips: 6-7, S. C. Poultry Lab., T+T, 47; W+F, 43. 8-9, S. C. Poultry Lab., T+T, 41; W+F, 46.

Assistant Estel: 2, S. C. Market Milk, alt. das., 4. 3-4, S. C. Dairy Lab., T, W, T, F, 24. 5-8 Mon., S. C. Dairy Stable Management, Dairy Buildings, etc., 31. 5, Pure Bred Dairy Herd, 4.

**Domestic Art.**

Professor Becker: 5, Tailoring, T+T, 15. 6-8, Tailoring Lab., T+T, 15. 5-7, Dressmaking, W+F, 17.

Instructor Stump: 1-2, S. C. Dressmaking, 17. 3-4, S. C. Dressmaking, 15. 5-6, S. C. Dressmaking, 9.

Instructor Cowles: 1-2, S. C. Dressmaking, 11. 3-4, S. C. Dressmaking, 14. 5-6, S. C. Dressmaking, 14.

Assistant Donaldson: 1-2, Sewing II, T+T, 18. 5-6, Sewing II, T+T, 20. 6-8 Dressmaking, W+F, 18. 5-8, Sat., Sewing II, 10.

Assistant Byerly: 1-2, Sewing II, W+F, 19. 3-4, Sewing II, alt. das., 8. 5-6, Sewing I, W+F, 17. 5-7, Dressmaking, T+T, 17.

Miss Ridenour: 1-2, Sewing I, alt. das., 20; 14. 3-4, Sewing III, T+T, 15. 5-7, Dressmaking, W+F, 14. 6-8, Tailoring Lab., T+T, with Miss Becker, 15.

**Domestic Science.**

Professor Van Zile: 3, Home Management, 64.

Assistant Professor Dow: 1, S. C. Home Nursing, 26. 2, S. C. Home Nursing, 30. 3-4, Elementary Cooking, 11. Domestic Science, Elective, Book Reviews, 30.

Instructor Willis: 1-2, Domestic Science I Lab., 16. 4, Domestic Science I, 37. 5-6, Domestic Science I Lab., 20. 7, S. C. Home Nursing, 33.

Assistant Woodward: 3-5, S. C. Dinner Work, 32.

Assistant Lindsey: 3-5, S. C. Dinner Work, 32.

Assistant Huse: 1-2, Domestic Science I Lab., 10. 3-4, Domestic Science I Lab., 20. 5, Domestic Science I, 30.

Assistant Smith: 1-2, Cooking, 20. 3-4, S. C. Therapeutic Cookery, 14. 5-6, S. C. Therapeutic Cookery, 15.

Assistant Miles: 1-2, Cooking, 19. 3-4, S. C. Advanced Cookery, 11. 5-6, S. C. Advanced Cookery, 17.

**Economics and Public Speaking.**

Professor Kammeyer: 1, Public Speaking II, 6. 2, Public Speaking I, 32. 4, Economics, 43.

Assistant Johnston: 1, Public Speaking I, 27. 3, Public Speaking I, 25. 4, Public Speaking I, 24. 5, Public Speaking I, 16.

**Electrical Engineering.**

Professor Eyer: 2, A. C. Machines, 17. 5-6, A. C. Machines Lab., T+T, 9; W+F, 8. (Assisted by Mr. Lane.)

Assistant Lane: 1, D. C. Design, T+T, 9; W+F, 7. 5-6, A. C. Machines Lab., T+T, 9; W+F, 8. (With Professor Eyer.)

**English.**

Professor Brink: 1, English Literature II, 33. 4, English Literature II, 30. 5, English Literature I, 16.

Assistant Professor Beall: 1, Rhetoric II, 25. 2, Rhetoric I, 36. 3, Classics, 23. 4, Rhetoric II, 24.

Instructor Rice: 2, Readings, 35. 3, Rhetoric II, 35. 5, Readings, 27. 6, Rhetoric II, 18.

Instructor Leonard: 1, Classics, 14. 2, Advanced Composition, 35. 4, Classics, 30. 5, Advanced Composition, 14.

Assistant Furley: 1, Composition, 14. 2, Composition, 23. 3, Readings, 38. 5, Advanced Grammar, 34.

Assistant Knight: 2, Rhetoric II, 37. 3, Rhetoric I, 33. 6, Classics, 14.

Assistant Boot: 1, Advanced Grammar, 27. 2, A Grammar, 15. 4, Advanced Composition, 23. 6, Advanced Composition, 13.

Assistant Edson: 1, Advanced Composition, 14. 3, Advanced Composition, 32. 4, English Readings, 31. 5, Rhetoric I, 20.

Miss Canfield: 5, Composition, 18. 6, Readings, 16.

Miss Cotton: 5, Classics, 20.

Miss Case: 6, Advanced Grammar, 16.

Miss Penn: 6, B Grammar, 17.



**Entomology and Zoology.**

Professor Headlee: 1, Embryology, 34. 2, Zoölogy II, 43. 5-6, Embryology Lab., W+F, 32.  
 Assistant Professor Dean: 1-2, Entomology I Lab., T+T, 30; W+F, 34. 3, Entomology I, 54.  
 5, Entomology I, 45. 7-8, Entomology III, 11. 5-8, Mon., Entomology I Lab., 42.  
 Instructor Scheffer: 1, Zoölogy I, 30. 2, Zoölogy I, 48. 3, Geology I, 26. 1-4 Mon., Zoölogy II  
 Lab., 45.  
 Assistant Evans: 4, Zoölogy I, 20. 5-6, Zoölogy I Lab., T+T, 20; W+F, 22. 1-4 Mon., Zoölogy  
 I Lab., 30. 5-8 Mon., Zoölogy I Lab., 33.

**German.**

Professor Cortelyou: 1, German IV, 18. 2, German II, 29. 4, German II, 12. 5, German II, 11.  
 Assistant Meinzer: 1, German I, 27. 3, German III, 29. 4, German I, 19. 6, German V, 9.

**History.**

Professor Price: 1, American History, 18. 2, American History, 28. 3, Civics, 43. 4, American  
 History, 25.  
 Assistant Reynolds: 1, Medieval History, 22. 3, Ancient History, 21. 4, Ancient History, 19.  
 5, Medieval History, 15.  
 Assistant Mack: 1, Modern History, 24. 2, Medieval History, 29. 3, Modern History, 26. 4,  
 Medieval History, 32.  
 Assistant Gordon: 1, Ancient History, 15. 2, Ancient History, 22. 3, Medieval History, 33.  
 6, Ancient History, 15.  
 Assistant Chase: 1, English History, 41. 2, Medieval History, 29. 5, Modern History, 15. 6,  
 Medieval History, 21.  
 Miss Herr: 2, Geography, 16. 4, U. S. History, A, 11. 5, U. S. History, B, 17. 6, U. S. His-  
 tory, A, 11.

**Horticulture and Forestry.**

Professor Dickens: 4, Fruit Growing, 6. 5, S. C. Horticulture, 76. 6, Horticulture, 25.  
 Assistant Professor Eastman: 1, Dendrology, 2. 2, Forestry, 3. 3, Silvics, 3. 4, Forest Men-  
 suration, 2. 5-6, Forestry Lab., T+T, 3. 7-8, Silvics Lab., T+T, 3. 1-4 Mon., Forest Men-  
 suration Lab., 2.  
 Assistant Cunningham: 1, Horticulture, 21. 4, Horticulture, 35. 6-7, Horticulture Lab., T+T,  
 41; W+F, 40. 1-4 Mon., Horticulture Lab., 32. 5-8 Mon., Hort. Lab., 24.  
 Assistant Ahearn: 1, S. C. Floriculture, 30. 2, S. C. Floriculture, 29. 3, Horticulture, 11. 5,  
 Horticulture Lab., 5. 1-4 Mon., Horticulture Lab., 14. 5-8 Mon., Hort. Lab., 23.

**Library.**

Miss Barnes: Library Economy, 4 Tu., 2; 6 W., 2; 5-8 Mon., 2.

**Mathematics.**

Professor Remick: 1, Analytical Geometry, 16. 2, Differential Calculus, 8. 3, Integral Calculus,  
 4.  
 Assistant Professor Andrews: 1, Differential Calculus, 22. 2, Analytical Geometry, 26. 3,  
 Geometry I, 27. 4, Algebra IV, 31.  
 Assistant Professor Barnett: Bookkeeping, 1, 18; 2, 40; 3, 30; 4, 33.  
 Instructor Zeininger: 1, Algebra II, 23. 2, Trigonometry, 28. 3, Algebra III, 28. 4, Algebra  
 III, 39.  
 Assistant Holroyd: 1, Algebra III, 21. 2, Geometry II, 31. 5, Algebra II, 25. 6, Algebra II, 13.  
 Assistant Porter: 1, Integral Calculus, 16. 2, Geometry I, 33. 5, Algebra I, 22. 6, Geometry  
 I, 25.  
 Assistant McGarrah: 3, Trigonometry, 45. 4, Geometry II, 38. 5, Algebra III, 23. 6, Geom-  
 etry II, 27.  
 Assistant White: 1, Geometry I, 19. 2, Integral Calculus, 11. 3, Algebra IV, 20. 4, Algebra  
 II, 38.  
 Assistant Bisbey: 1, A Arithmetic, 14. 2, Algebra I, 23. 3, A Arithmetic, 12. 4, Algebra I, 22.  
 Assistant Petty: 1, Trigonometry, 36. 2, Algebra II, 34. 3, Algebra II, 26. 5, Geometry II, 27.  
 Assistant Kay: 3, Algebra I, 35. 4, Geometry I, 17. 5, Algebra IV, 5. 6, Trigonometry, 13.  
 Assistant Jackson: 3, Geometry II, 25. 4, Trigonometry, 21. 5, Geometry I, 18. 6, Algebra  
 III, 17.  
 Miss Carlson: 1, Algebra I, 25. 4, B Arithmetic, 26.  
 Mr. Campbell: 6, Algebra I, 15.

**Mechanical Engineering.**

Professor McCormick: 5-8 Mon., Mechanical Drawing VII, 8.  
 Assistant Professor Potter: 2, Steam Engineering III, 8. 3, Steam Engineering E, 19. 5-7,  
 Steam Engineering Lab., Th.+S, 9; M+F, 9. Mechanical Engineering Lab. I, 1-3 Mon. and  
 5-7 Wed., 9.  
 Assistant Professor Seaton: 3, Applied Mechanics II, 8.  
 Assistant Professor Seaton and Assistant Bowerman: 5-6, Mechanical Drawing I, T+T, 22;  
 W+F, 13. 8-9, Mech. Drawing I, W+F, 18. Mech. Drawing II, T+T, 27. Mech. Drawing  
 IV, 5-6 S. & 5-8 M., 10; 7-8 S. & 1-4 M., 11; 5-8 Tu. & 5-6 F., 2.  
 Assistant Professor Bray: 4, Kinematics, 18.

Instructor House and Assistant Parker: 1-2. W+F, Woodwork I, 23; T+T, Woodwork I, 15, 3-4, W+F, Woodwork I, 24; T+T, Woodwork II, 33. 5-6, W+F, Woodwork I, 31; T+T, Woodwork I, 42. 8-9, Woodwork I, T+T, 35; W+F, 38. 3-4, 6-7, Sat., Woodwork I, 38. 1-4, Mon., Woodwork I, 9. 5-8, Mon., Woodwork II, 39.

Instructor Wabnitz: 5-6, Machine Shop II, T+T, 13; W+F, 7. 8-9, Machine Shop I, T+T, 5; Machine Shop III, W+F, 7. 1-4 M & 5-6 S, Machine Shop IV & V, 8. 5-8 M, Machine Shop 8.

Instructor Ridenour: Foundry, 1-2, T+T, 1; 3-4, T+T, 1; 5-6, T+T, 4; 1-4, M, 15; 5-8, M, 13.

Instructor Hollar: Blacksmithing I, 1-4 M, 32; W+F: 1-2, 16; 3-4, 14; 5-6, 34; 8-9 33; 3-4, 6-7 S, 33. Blacksmithing II, T+T: 1-2, 6; 3-4, 9; 5-6, 10; and 5-8 M, 30.

Assistant Orr: Gas Eng. Lab., 3-4 S, 6; 6-7 S, 6; 8-9, T, 6; T, 6, S, 7. Assisting in Engineering Lab., 1-4 M & 5-7 W.

#### Military Science.

Lieutenant Boice: 7, Military Drill, 537.

#### Music.

Professor Valley: Vocal Music: 1, 21; 2, 31; 3, 20; 4, 16; 5, 26; 6, 29, 7, T, W, T, Glee Club, 14; F, Chapel Chorus, 40. Chorus, Monday night. Notation: 2, 8; 3, 5; 7, 2.

Assistant Professor Brown: 1. Violin, 12. 2. Violin, 13. 3. Violin, 15. 4. Theory of Music, 7. 5. String Instruments, 16. 6. Violin, 15. 7. Orchestra, 37.

Assistant Cannon: Piano, 1, 15; 2, 14; 3, 15; 4, 15; 5, 10; 6, 14. 5, W, Musical History, 2.

Assistant Baum: Piano: 1, 16; 2, 12; 3, 15; 4, 11; 5, 10; 6, 9.

Assistant Ping: Piano: 1, 12; 2, 15; 3, 9; 4, 11; 5, 7; 6, 11. 5 Tu., Harmony, 2.

Miss Biddison: Vocal Music: 1, 6; 2, 7; 3, 10; 4, 11; 5, 9; 6, 9. Notation: 2, 9; 3, 10; 7, 15.

Mr. Westphalinger: 1, Flutes and Clarinets, 7. 2, Baritones and tenors, 4. 3, Cornets and horns, 8. 4, Trombones, 8. 5, Saxophones and Clarinets, 6. 6, Drums, 1. 7, Band, 36.

#### Philosophy.

Professor McKeever: 2, Philosophy of Education, 10. 3, Philosophy, 41. 4, Philosophy, 21. 6, Elementary Psychology, Tu., 40; W, 27; Th., 30.

#### Physical Training.

Director Barbour: Physical Training: 3, 34; 4, 44; 6, 36; 7, 43.

#### Physics.

Professor Hamilton: 1. Physics I, 55. 2. Physics IV, 33. 3. Physics II, 42. 5. Physics II, 23. 6. Physics II, 19. 1-2 M, Physics I Lab., 30. 3-4 M, Physics I Lab., 30. (Assisted in Lab. by Mr. Morris.)

Instructor Logan: 1-2, Physics II Lab., T+T, 19; W+F, 18. 3. Physics IV, 46. 4. Physics II, 30. 5-6, Physics IV Lab., T+T, 24; W+F, 24. 1-4 M, Physics IV Lab., 22.

Assistant Jenness: 1. Physics I, 59. 2. Physics I, 74. 3-4, Physics II Lab., T+T, 8; W+F, 10. 5-6, Physics I Lab., S, 34; Physics II Lab., T+T, 17; W+F, 27. 1-4 M, Physics II Lab., 31.

Mr. Dearborn: 5-6, Physics I Lab., Tu., 23; Th., 26; F, 31.

#### Printing.

Superintendent Rickman: 2, Proof-reading, 6. 5-6, Editing Copy, T+T, 3. (Other printing subjects, but with only one student in each.)

Assistant Rodell: Printing subjects scattered through the day, averages 4 students each hour for 7 hours every day.

#### Veterinary.

Doctor Schoenleber: 2, Medicine I, 13. 3, Medicine IV, 10.

Assistant Professor Stouder: 1, Surgery IV, 11. 3, Materia Medica, 13. 4, Surgery I, 11. 5-6, Clinic, 12. 1-4 M, Surgery, 11. 5-8 M, Clinic, 11.

Instructor Rogers: 1, Anatomy III, alt. das., 8. 7:45-8:30 a. m., Anatomy II, alt. das., 14. 7:45-9:20 a. m., Anatomy II & III Lab., alt. das., 22. 4, Anatomy V, T, T, S, 13. 5-6, Anatomy V Lab., T+T, 13. 1-2 M, Anatomy V Lab., 13.

Assistant Professor Goss: 1, Histology II, alt. das., 17. 2, Histology I, 10. 3-4, Histology I Lab., T+T, 10; Histology II Lab., W+F, 17. 5, Physiology I (Comp), 22.

Doctor Burt: 2, S. C. Live Stock Sanitation, 52. 3, Elementary Physiology, 20. 4, Physiology, 52.

The Department of Entomology is carrying on a vigorous campaign throughout the south-central part of the State assisting the farmers in fighting the chinch-bug invasion that threatens this spring. In a number of instances the farmers have organized for the purpose of burning all trash along fences and in fields and meadows. The principal railroads have also agreed to burn their rights-of-way. It is hoped that by such vigorous means the greater part of the chinch-bugs that lived through the winter in these hiding places will be destroyed.



## Regent Taylor Addresses the Printers.

"In building an educational structure, as you young people are doing, while all of it is important the most important features are the skill, the energy, the observation, the tenacity, the strength, the alertness, the poise which you develop and assimilate while the process is going on. If principle could be likened to the breezes that fill the mariner's sail, habit may be called the helm which guides his craft," said Regent Edwin Taylor in an address before the printing students, members of the Faculty and the Board of Regents in Kedzie Hall March 23.

Mr. Taylor had been talking from the viewpoint of a farmer and had just shown how the same principles that govern the life of the farmer held good for the government of the printer. His talk was general and in it he voiced sentiments in harmony with those of the socialist. He said:

"Society has full right to make every individual contribute according to his ability to any of the needs of society." He discussed with approval the term "paternalism" by which our system of public schools was coming to be known, and added: "You of the cloister may not have perceived it, but there is abroad, if I do not mistake the indications, a growing determination, indefinite, unformulated, to try whether this kind of paternalistic procedure, designed, controlled and paid for by the State which so admirably gives education to all who appear, may not, when its ministrations are turned from the academy to the market place, operate admirably there also and give to all men a fairer division than they now have of the bounty of Nature and the output of organized society."

He spoke of the "political equality" and the "equality of opportunity" which existed following the Revolutionary war, but which with the exhaustion of free lands "has receded until it has but two points of attachment, the schoolhouse and the voting place." Continuing, he said: "I cordially endorse Mr. Ingalls' proposed parallel between political equality and equality of opportunity. To realize it will require much governmental recasting. My one apprehension is that in the rearrangement of parts, the old and the new, so that all will 'justify,' in printer's parlance, the old may be discarded faster than the new can be proved and put in service. An orderly procedure is opposed by these two implacables: a revolutionary element which despises progress with caution, and a reactionary element which despises progress at all. Between these two democracy is sore bestead. You are her wards. She looks to you for guidance and help."—O. W.

## Local Notes.

The Agronomy Department has about finished the seeding of spring grain.

Prof. W. H. Andrews gave an address on "The Duty of the Student to the College" last Tuesday morning at the Chapel exercises.

The Domestic Science Department gave the Board of Regents a practical illustration of their work in cooking by serving them a sample dinner last Wednesday noon.

The blue-grass on the campus has put on its Sunday clothes, the buds are swelling, the birds have returned from the Sunny South, and the stone-masons working on the new Nichols' Gymnasium have started to sing their monotonous "more mort."

Miss Frances Brown reports that Superintendent Wells, of Russell county, had a very excellent display of sewing, done by the teachers and pupils of that county, at the Golden Belt Teachers' Association. The exhibit consisted chiefly of samples, but it was rich and showed careful work.

The alumni and former students of the Kansas State Agricultural College in Russell county formed an association last week to keep up their connection with the alma mater. Pres. H. J. Waters and Miss Frances Brown addressed the assembled young people in the hall of Carnegie Library, at Russell.

Miss Frances Brown, of the College Extension Department, addressed the Golden Belt Educational Association at Russell last week. On her trip there the train was wrecked near Wilson on account of a burned bridge and she was detained at Black Wolf for sixteen hours. The next day she walked five miles out to watch the removal of the wrecked bridge and train and the rebuilding of the track.

The movable school work over the State is to be done by Miss Frances Brown, '09, of the Extension Department, and Miss Ula Dow, '05, of the Domestic Science Department, with the assistance of Miss Minnie Forceman, '09, and Miss Alice Skinner, '09. Miss Dow's absence from the department during the spring term makes a substitute necessary. Miss Ida Rigney, '09, who has been acting as dietitian in Ensworth Hospital, St. Joseph, Mo., is to fill this position.

The Board of Regents was in session this week. The spring meeting is always a busy one, because the question of reëmployment of the officers and the Board of Instruction, the salary problem and the apportioning of the department appropriations for the coming College year must be settled at this time. The Board also considered the new courses of study that were prepared by the Faculty this winter. A report of the session will be published next week.

---



Prof. Albert Dickens, of the Horticultural Department, is arranging this week for special work in demonstrating the effectiveness of spraying for the destruction of insects in orchards. He went from here to Allen, Bourbon, Lynn, and Anderson counties, where he will establish demonstration plants for this purpose. Arrangements will be made with at least one orchardist in each of these counties to spray his orchard under the direction of the Horticultural Department of this College. Apple growers in Kansas have paid too little attention to this matter and it is hoped that by such demonstrations interest will be aroused in spraying and many thousands of dollars saved to the orchard owners of the State.

Mr. L. A. Fitz, of the Division of Milling Industry of the College, went to Kansas City, Wednesday, to meet with committees representing the Southern Kansas Millers' Club, the Northern Kansas Millers' Club, the Kansas Grain Dealers' Association, and the Kansas City (Missouri) Board of Trade. These organizations have at previous sessions agreed to contribute their share of \$5000 to be used by this division for locating as great a quantity as possible of pure wheat for seeding next fall. A number of men will be employed to visit the wheat fields before harvest to note the degree of purity and to arrange with the farmers for the sale of their crop for this purpose.

The last INDUSTRIALIST contained the following item: "Asst. E. P. Johnston, of the Department of Public Speaking, gave a very fine talk on 'International Peace and Its Progress' last Thursday morning in the Auditorium." This item needs correcting. The address was given by Asst. L. A. Chase, of the Department of History. The local editor has known both professors personally since last September, but somehow he had "crossed" their names and positions. The College family is getting to be so large that few, if any, members of the teaching force know all the other members. Fifteen years ago Pres. Geo. T. Fairchild used to say that he personally knew every student in College. To-day no professor knows one-third of the whole number. We beg pardon, Mr. Chase.

Mr. P. E. Crabtree, of the College Extension Department, who has charge of the College demonstration farms in eastern Kansas (nine farms), reports that everywhere much damage has been done to wheat by the severe weather of last December and January. He says that, following Professor Headlee's advice, the farmers are burning the dry grass along the fences and woods to destroy the chinch-bugs. He also states that the soil is working nicely—better than usual—as a result of the severe freezing. Next week he will visit the Governor Crawford farm, at Baxter Springs, where the Dupont Powder Company has been experimenting with blasting the hard gumbo sub-soil. He will direct the planting of crops to test the value of the blasting efforts and take soil samples for investigation by the Agronomy Department of the College.

The annual inspection of the College Battalion will be held April 16. The inspecting officer sent for this purpose by the United States War Department this year is Capt. Benjamin T. Simmonds, of the General Staff. There are over ninety colleges to be inspected, of which number Captain Simmonds will see twenty-three.

Regent Tom Blodgett addressed the students after the chapel exercises in the Auditorium last Thursday morning in response to an unwritten but inexorable rule, that every newly appointed Regent must say something to the assembled student body. He spoke of the development in young men and young women of the element of positiveness. He advised them to select their life work early, to be outspoken, accurate, and active, in order to train themselves to become leaders instead of followers and mere imitators. In the evening he addressed the young men at the Y. M. C. A. Hall. Both of his addresses were well received.

The Departments of Domestic Science and Domestic Art held their annual exhibition of work in food preparation, sewing and dressmaking last Tuesday and Wednesday in the Women's building. There were about two hundred visitors present and much interest was manifest among the visiting parties. The exhibit of the Domestic Science Department consisted in demonstrations in the six laboratories, given all day long by the regular and the short-course girls in therapeutic cookery. In addition there was a five-course dinner demonstration in the large dining-room. Professor VanZile and her eight busy assistants were present and answered the many questions that were asked by the interested visitors. The exhibits of the classes in domestic art were on the third floor and consisted of thirty woolen and silk dresses made by the short-course girls, six very fine, complete woolen dresses made by the regular sophomore girls, and six full shirt-waist suits, twenty-four complete under-garments, two dozen aprons, and a dozen sample books made by the regular first-year girls. The exhibit of these classes was perhaps the best ever seen at the College. It was highly commented upon by the visitors, and by the members of the Board of Regents who took time to look it over. Miss Antonetta Becker and her five assistants deserve much credit for these evidences of their efficient work. In connection with the exhibition of work in sewing and dressmaking there was also a very fine exhibit of work in freehand drawing, object drawing, color, design, and home decoration. This work is done by the Department of Architecture and Drawing, that is, by the classes taught by Misses Ella Weeks, Elizabeth Putnam, and Charlotte Morton. Their annual exhibits show a constantly increasing amount of practical applications of art to household affairs. The exhibit this year includes many beautiful designs for menu and place cards, lamp or candle shades, stenciled curtains, color schemes for costumes and for the interior decorations of rooms. It is the aim of this division of the department to increase the facilities for art and craft work as rapidly as possible in the future.



**Board of Instruction (concluded from second page).****INSTRUCTORS (Concluded).**

William L. House.....Instructor in Woodwork, Foreman of Carpenter Shop  
 Louis Wabnitz.....Instructor in Machine Tool Work, Foreman of Machine Shop  
 Ambrose E. Ridenour, B. S. (K. S. A. C.).....Instructor in Moulding, Foreman of Foundry  
 J. H. Hollar.....Instructor in Forging, Foreman of Blacksmith Shop

**ASSISTANTS.**

Miss Ina E. Holroyd, B. S. (K. S. A. C.), (K. S. N.).....Assistant in Mathematics  
 Miss Kate Tinkey.....Assistant Librarian  
 Earl N. Rodell, B. S. (K. S. A. C.).....Assistant in Printing  
 Chas. Yost.....Assistant in Heat and Power Department  
 Earle B. Milliard.....Assistant in Machine Shops  
 J. T. Parker.....Assistant in Woodwork  
 E. G. Meinzer, M. A. (Olivet College).....Assistant in German  
 Hugh Oliver.....Assistant in Heat and Power Department  
 Miss Charlaire Furley, B. A. (Fairmount College).....Assistant in English  
 Miss Jessie Reynolds, A. B. (University of Kansas).....Assistant in History  
 William C. Lane, B. S. (K. S. A. C.).....Assistant in Electrical Engineering  
 Miss Flora C. Knight, A. B. (University of Wyoming).....Assistant in English  
 Miss Grace H. Woodward (Boston School of Domestic Science)....Asst. in Domestic Science  
 Miss Margaret A. Mack (Kansas State Normal School).....Assistant in History  
 S. W. McGarrah, M. A. (Grove City College).....Assistant in Mathematics  
 C. A. Arthur Utt, M. S. (Cornell College).....Assistant in Chemistry  
 Miss Florence Warner, A. B. (University of Illinois).....Assistant Librarian  
 Miss Anna Gordon, A. B. (Iowa College).....Assistant in History  
 Miss Bertha M. Johnston (Simmons College).....Assistant in Domestic Science  
 Harrison E. Porter, B. S. (K. S. A. C.).....Assistant in Mathematics  
 J. B. Parker, M. A. (Ohio State University).....Assistant in Entomology  
 Allen G. Philips, B. S. (K. S. A. C.).....Assistant in Poultry  
 Miss Gertrude Cannon (Bethany College) (Oberlin Conservatory).....Assistant in Music  
 Miss Bertha Bisby.....Assistant in Mathematics  
 Fred M. Hayes, D. V. M. (K. S. A. C.).....Assistant in Veterinary Science  
 Miss Bertha Donaldson (University of Chicago).....Assistant in Domestic Art  
 Miss Elizabeth Putnam (Chicago Art Institute).....Assistant in Drawing  
 L. E. Petty, A. B. (Wabash College).....Assistant in Mathematics  
 Jules C. Cunningham, B. S. (K. S. A. C.).....Assistant in Horticulture  
 Miss Annie E. Lindsey (Simmons College).....Assistant in Domestic Science  
 Miss Amy Allen, B. S. (K. S. A. C.).....Assistant in Printing  
 John E. Smith, B. S. (Oregon Agricultural College).....Assistant in Botany  
 R. C. Wiley, B. S. (Oklahoma A. & M. College).....Assistant in Chemistry  
 Porter J. Newman, B. S. (Franklin College).....Assistant in Chemistry  
 C. E. Griffin, M. S. (University of Michigan).....Assistant in Chemistry  
 C. W. Nash, B. S. (Iowa State College).....Assistant in Crops  
 Chas. Doryland, B. S. (K. S. A. C.).....Assistant in Soils  
 R. C. Thompson, B. S. (K. S. A. C.).....Assistant in Chemistry  
 R. H. Wilson, D. V. M. (K. S. A. C.).....Assistant in Bacteriology  
 Miss Helen Huse, B. S. (K. S. A. C.).....Assistant in Domestic Science  
 E. F. Kubin, D. V. M. (K. S. A. C.).....Assistant in Veterinary Science  
 B. S. Orr, B. S. (K. S. A. C.).....Assistant in Mechanical Engineering  
 Elmer Johnson, B. S. (K. S. A. C.).....Assistant in Mechanical Engineering  
 A. B. Nystrom, B. S. (K. S. A. C.).....Assistant in Dairy Husbandry  
 A. Miyawaki, M. S. (K. S. A. C.).....Assistant in Experimental Dairying  
 Geo. C. Wheeler, B. S. (K. S. A. C.).....Farm Management, Farmers' Institute Department  
 C. V. Holsinger, B. S. (K. S. A. C.).....Horticulture, Farmers' Institute Department  
 P. E. Crabtree.....Farm Management, Farmers' Institute Department  
 Miss Frances L. Brown, B. S. (K. S. A. C.).....Domestic Science, Farmers' Institute Department  
 C. H. Hinman, A. B. (University of Nebraska).....Dairying, Farmers' Institute Department  
 W. S. Gearhart, B. S. in C. E. (University of Missouri).....Highway Engr., Farmers' Inst. Dept.  
 Miss Ethel Byerly, (Drexel Institute).....Assistant in Domestic Art  
 T. G. Patterson, B. S. (University of Minnesota).....Assistant in Animal Husbandry  
 Mrs. Jessie Gulick.....Assistant in Library  
 Miss Mary Mudge, B. S. (K. S. A. C.).....Assistant in Library  
 Miss Estella M. Boot, M. A. (Northwestern University).....Assistant in English  
 J. R. Jenness, B. S. (Denison College).....Assistant in Physics  
 Harry Evans, B. S. (Ohio State University).....Assistant in Entomology  
 Miss Ada Baum (Chicago Musical College).....Assistant in Music  
 Miss Ethel K. M. Ping (Sherwood Music School).....Assistant in Music  
 E. P. Johnston, A. B. (Oberlin College) (Emerson Coll. of Oratory)... Asst. in Public Speaking  
 Dean H. Rose, M. A. (Washington University, St. Louis).....Assistant in Botany  
 Miss Anna Monroe, B. S. (K. S. A. C.).....Assistant in Botany  
 Miss Madge Kay, B. S. (University of Chicago).....Assistant in Mathematics  
 C. A. Jackson, B. S. (Purdue University).....Assistant in Mathematics  
 D. O. Stone, C. E. (Cornell University).....Assistant in Civil Engineering  
 Paul W. Graff, B. S. (Connecticut Agricultural College).....Assistant in Botany  
 T. R. H. Wright, B. S. A. (University of Missouri).....Assistant in Animal Husbandry  
 L. A. Chase.....Assistant in History  
 Henry Wagner.....Assistant in Heat and Power  
 A. E. White, M. S. (Purdue University).....Assistant in Mathematics  
 H. W. Edson, A. M. (Harvard University).....Assistant in English  
 M. R. Bowerman, B. S. (Michigan Agricultural College).....Assistant in Mechanical Engineering  
 Frank C. Harris, B. S. (K. S. A. C.).....Assistant in Architecture and Drawing  
 Geo. A. Westphalinger.....Band Leader  
 Wm. A. Lamb.....Superintendent of Poultry Plant  
 Floyd Howard.....Farm Foreman

# THE INDUSTRIALIST

Historical Society

Vol. 36

Saturday, April 2, 1910

No. 22

*Issued Weekly By*  
**Kansas State Agricultural College**  
*Manhattan, Kansas*



---

*Published by*  
**PRINTING DEPARTMENT**  
*J. D. Rickman, Supt.*

Entered at post-office, Manhattan, Kan., as second-class matter. Act of July 16, 1894.



# THE INDUSTRIALIST.

|                         |                 |
|-------------------------|-----------------|
| PRES. H. J. WATERS..... | Editor-in-Chief |
| DR. J. D. WALTERS.....  | Local Editor    |
| DR. J. T. WILLARD.....  | Alumni Editor   |

## BOARD OF REGENTS.

|                                                       |              |
|-------------------------------------------------------|--------------|
| HON. W. E. BLACKBURN, President.....                  | Anthony      |
| HON. J. O. TULLOSS ['99], Vice-President.....         | Sedan        |
| HON. EDWIN TAYLOR.....                                | Edwardsville |
| HON. ARTHUR CAPPER.....                               | Topeka       |
| HON. A. L. SPONSLER.....                              | Hutchinson   |
| HON. TOM BLODGETT.....                                | Wichita      |
| PRES. H. J. WATERS, Secretary <i>ex-officio</i> ..... | Manhattan    |

## BOARD OF INSTRUCTION

### FACULTY.

|                                                                                         |                                                     |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------|
| HENRY J. WATERS, B. S. A. (University of Missouri).....                                 | President                                           |
| ED. H. WEBSTER, B. S. A. (Ia. S. C.), M. S. (K. S. A. C.).....                          | Director Exp. Sta., Dean of Agriculture             |
| JOHN D. WALTERS, D. A. (K. S. A. C.).....                                               | Professor of Architecture and Drawing               |
| JULIUS T. WILLARD, D. Sc. (K. S. A. C.), Prof. of Chem. V.....                          | Director Exp. Sta., Dean of Science                 |
| BENJ. L. REMICK, Ph. M. (Cornell College).....                                          | Professor of Mathematics                            |
| BENJ. F. EYER, E. E. (Armour Institute of Technology).....                              | Prof. of Electrical Engineering                     |
| HERBERT F. ROBERTS, M. S. (K. S. A. C.).....                                            | Professor of Botany                                 |
| WILLIAM A. MCKEEVER, Ph. M. (University of Chicago).....                                | Professor of Philosophy                             |
| EDMUND B. MCCORMICK, S. B. (Mass. Inst. of Tech.).....                                  | Prof. of Mech. Eng., Dean of Mech. Arts             |
| ALBERT DICKENS, M. S. (K. S. A. C.).....                                                | Professor of Horticulture, Supt. of Grounds         |
| CLARK M. BRINK, Ph.D. (U. of City of N. Y.).....                                        | Prof. of English, Dean of the Coll., Asst. to Pres. |
| ALBERT M. TEN EYCK, B. Agr. (University of Wisconsin).....                              | Prof. of Agronomy, Supt. of Farm                    |
| RALPH R. PRICE, M. A. (University of Kansas).....                                       | Professor of History and Civics                     |
| JULIUS E. KAMMEYER, M. A. (Central Wesleyan College).....                               | Professor of Economics                              |
| JOHN V. CORTELYOU, Ph. D. (Heidelberg).....                                             | Professor of German                                 |
| OLOF VALLEY, B. M. (Chicago Conservatory).....                                          | Professor of Music                                  |
| F. S. SCHOENLEBER, D. V. S. (Chicago Vet. College).....                                 | Professor of Veterinary Science                     |
| ROLAND J. KINZER, B. S. A. (Iowa State College).....                                    | Professor of Animal Husbandry                       |
| WALTER E. KING, M. S. (Cornell University).....                                         | Professor of Bacteriology                           |
| THOMAS J. HEADLEE, Ph. D. (Cornell University).....                                     | Professor of Entomology                             |
| CHAS. H. BOICE, First Lieutenant Seventh Cavalry, U. S. A.....                          | Professor of Military Science                       |
| JOHN C. KENDALL, B. S. (New Hampshire A. & M. College).....                             | Professor of Dairy Husbandry                        |
| JOHN O. HAMILTON, B. S. (University of Chicago).....                                    | Professor of Physics                                |
| MRS. MARY P. VANZILE, (Iowa State College).....                                         | Prof. of Domestic Science, Dean of Women            |
| JOSHUA D. RICKMAN.....                                                                  | Superintendent of Printing                          |
| MISS MARGUERITE E. BARBOUR (Sargent Nor. Sch. Phys. Tr.), Director of Physical Training |                                                     |
| MISS ANTONETTA BECKER (Drexel Institute).....                                           | Professor of Domestic Art                           |
| MISS GERTRUDE BARNES.....                                                               | Librarian                                           |
| LOWELL E. CONRAD, M. S. (Lehigh University).....                                        | Professor of Civil Engineering                      |
| JOHN H. MILLER, M. A.....                                                               | Superintendent Farmers' Institutes                  |
| MISS MARGARET BUTTERFIELD.....                                                          | Secretary                                           |
| WILLIAM R. LEWIS.....                                                                   | Custodian                                           |

### ASSISTANT PROFESSORS.

|                                                                       |                                               |
|-----------------------------------------------------------------------|-----------------------------------------------|
| JACOB LUND, M. S. (K. S. A. C.).....                                  | Superintendent Heat and Power Department      |
| ANDREY A. POTTER, S. B. (Mass. Inst. of Tech.).....                   | Asst. Professor of Mechanical Engineering     |
| ROBERT H. BROWN, B. M. (Kan. Con. of Music), B. S. (K. S. A. C.)..... | Asst. Professor of Music                      |
| GEO. A. DEAN, M. S. (K. S. A. C.).....                                | Assistant Professor of Entomology             |
| WILLIAM H. ANDREWS, A. B. (University of Chicago).....                | Assistant Professor of Mathematics            |
| ROBERT E. EASTMAN, M. S. (Cornell University).....                    | Assistant Professor of Forestry               |
| LELAND E. CALL, B. S. (Ohio State University).....                    | Assistant Professor of Soils                  |
| ROY A. SEATON, B. S. (K. S. A. C.).....                               | Assistant Professor of Mechanical Engineering |
| LEONARD W. GOSS, D. V. M. (Ohio State University).....                | Asst. Professor of Veterinary Science         |
| GEO. E. BRAY, M. E. (University of Minnesota).....                    | Asst. Prof. Mech. Engineering, Supt. of Shops |
| MISS ULA M. DOW, B. S. (K. S. A. C.).....                             | Assistant Professor of Domestic Science       |
| H. H. KING, M. A. (Ewing College).....                                | Assistant Professor of Chemistry              |
| JOHN B. WHELAN, M. A. (University of Nebraska).....                   | Assistant Professor of Chemistry              |
| C. O. SWANSON, M. Agr. (University of Minnesota).....                 | Asst. Prof. of Agricultural Chemistry         |
| ROBT. J. BARNETT, B. S. (K. S. A. C.).....                            | Assistant Professor of Mathematics            |
| LOUIS H. BEALL, A. B. (Denison College).....                          | Assistant Professor of English                |
| WILMER E. DAVIS, M. S. (University of Illinois).....                  | Assistant Professor of Botany                 |
| F. G. KING, B. S. A. (University of Missouri).....                    | Assistant Professor of Animal Husbandry       |
| K. W. STODDER, D. V. M. (Iowa State College).....                     | Assistant Professor of Veterinary Science     |

### INSTRUCTORS.

|                                                                    |                                  |
|--------------------------------------------------------------------|----------------------------------|
| Miss Ada Rice, B. S. (K. S. A. C.).....                            | Instructor in English            |
| Miss Ella Weeks, A. B. (University of Kansas).....                 | Instructor in Drawing            |
| Miss Daisy Zeininger, B. A. (Fairmount College).....               | Instructor in Mathematics        |
| Theo. H. Scheffer, M. A. (Cornell University).....                 | Instructor in Zoölogy            |
| L. D. Bushnell, B. S. (University of Michigan).....                | Instructor in Bacteriology       |
| M. Francis Ahearn, B. S. (Massachusetts Agricultural College)..... | Instructor in Horticulture       |
| Burton Rogers, D. V. M. (Iowa State College).....                  | Instructor in Veterinary Science |
| Kirk H. Logan, B. S. (University of Kansas).....                   | Instructor in Physics            |
| Miss Clara Willis (Framingham Normal Institute).....               | Instructor in Domestic Science   |
| Miss Ina Cowles, B. S. (K. S. A. C.).....                          | Instructor in Domestic Art       |
| Miss Gertrude Stump, B. S. (K. S. A. C.).....                      | Instructor in Domestic Art       |
| Miss Annette Leonard, A. B. (University of Kansas).....            | Instructor in English            |

(Board of Instruction concluded on last page.)

# THE INDUSTRIALIST

VOL. 36.

MANHATTAN, KAN., APRIL 2, 1910.

No. 22

## Investigation of Vitality of Kansas Seed-Corn.\*

A. M. Ten Eyck, Professor of Agronomy.

Corn was severely injured last season by the drought and hot weather in August, which resulted in the production of many light and chaffy ears. Again, the winter set in a month earlier than usual and the early snow and severe cold weather found the larger part of our Kansas corn crop still in the field unhusked, and many farmers failed even to gather seed-corn before the freeze-up. Because of these unfavorable conditions those who were best acquainted with the situation feared that much of the seed-corn was injured in vitality and that there was likely to be a shortage of good seed-corn for planting in this State.

In order to determine the actual condition of the seed-corn, the writer issued a general invitation to the farmers to send samples of the corn which they intended to use for seed to the Agronomy Department of the Experiment Station for testing. This invitation, with a circular giving directions for sampling, etc., was sent to a number of corn growers. The announcement was also published widely through the newspapers and the agricultural press of the State.

The instructions given for sampling were as follows: "Select twenty-five good ears from the seed-corn you have saved or from the crib or field—such ears as you would choose for planting. Select six kernels from each ear, two from near the tip, two from near the middle, and two from near the butt of the ear, removing duplicate kernels from opposite sides of the ear. This ought to give an average sample fairly representing your seed-corn. Place the kernels in a seed envelope with note giving your name and address, name of variety, and a careful description of the condition under which the seed-corn was gathered and stored, and mail to the Agronomy Department of the Kansas State Agricultural College."

This announcement was first published about the middle of February. The testing of samples was begun the last week in

\*This work has been in charge of Mr. Joe Lill, one of our graduate students, who has carried out all of the germination work and has made the computations from which the data and conclusions published in this circular have been determined.



February and has continued to this date (March 15). Nearly 300 samples have been received, and this report includes 250 tests which have been completed. Fifty-seven counties are represented by the tests included in this report. The places from which samples were received were well distributed over the middle and eastern sections of the State, but only a few samples came from the western third of the State.

Several of the parties who sent in samples failed to carry out the instructions fully regarding sampling, and sent smaller samples than required. When possible these were duplicated. A number failed to send descriptive data and a few neglected to write their name and address. A personal letter reporting the result of each germination test was sent to the grower of the corn with advice and directions regarding the planting or further testing of such seed-corn.

The time allowed for the germination of the samples was about six days. The kernels were examined and counted when the rootlets were about two inches in length, and only the grains that showed healthy, normal rootlets were counted as germinated.

The following is some of the general data secured by this investigation:

The average germination of the seed-corn of Kansas as determined by this investigation is 92.25 per cent; that is, 92 kernels out of every 100 kernels tested sprouted.

#### COMPARING EARLY AND LATE GATHERED SEED-CORN.

One hundred twenty-five samples of corn gathered early, before December 1st, gave an average germination of 95.18 per cent.

Fifty-four samples of corn gathered late, after December 1st, gave an average germination of 88.54 per cent.

#### COMPARING THE SEED-CORN GATHERED EARLY AND WELL CARED FOR WITH CORN HUSKED EARLY AND THROWN IN THE CRIB, FROM WHICH THE SEED EARS WERE LATER SELECTED.

Eighty samples of seed-corn gathered early and well saved gave an average germination of 97.7 per cent.

Nine samples of corn husked early, but seed taken from the crib, gave a germination of 93.3 per cent.

#### COMPARING SEED-CORN GATHERED LATE FROM THE SHOCK WITH THAT TAKEN IN THE WINTER FROM THE STANDING STALKS IN THE FIELD.

Thirty-six samples gathered from the field after December 1st gave an average germination of 87.7 per cent.

Six samples taken from the shock after December 1st gave an average germination of 86.6 per cent.

#### COMPARING THE GERMINATION OF VARIETIES.

Fifteen samples of Reid's Yellow Dent corn gave an average germination of 98.8 per cent.

Twenty-eight samples of Kansas Sunflower corn gave an average germination of 95.94 per cent.

Forty-nine samples of Boone County White corn gave an average germination of 94.52 per cent.

Twenty-three samples of Hildreth corn gave an average germination of 92.38 per cent.

Eleven samples of Silvermine corn gave an average germination of 86.85 per cent.

The average germination of 123 other varieties was 91.47 per cent.

#### COMPARING THE GERMINATION ACCORDING TO THE EARLY OR LATE MATURING CHARACTER OF THE CORN.

Sixteen samples of fairly early maturing corn such as the Silvermine gave an average germination of 89.03 per cent.

Sixty-six samples of medium early maturing corn, such as Boone County White and Reid's Yellow Dent, gave an average germination of 95.11 per cent.

Thirty-two samples of corn of medium maturing season, such as Kansas Sunflower and McAuley's White Dent, gave an average germination of 95.6 per cent.

Thirty-two samples of late-maturing corn, such as Hildreth and Hiawatha Yellow Dent, gave an average germination of 92.79 per cent.

#### COMPARISON OF GERMINATION OF SAMPLES BY DISTRICTS.

Southeastern district, including counties of Chautauqua, Montgomery, Labette, Cherokee, Wilson, Bourbon, Allen, and Linn, 17 samples gave an average germination of 95.75 per cent. Of this lot, 9 samples gathered early averaged 96.71 per cent, and 4 samples gathered late averaged 91.16 per cent.

Southern district, including counties of Butler, Cowley, Sumner, Harper, Kingman, Sedgwick, Harvey, Reno, Clark, Stafford, Pawnee, Rice, Barton, and Rush, 54 samples gave an average germination of 93.21 per cent; 27 samples of early-gathered corn averaged 94.58 per cent, and 8 samples of late-gathered corn averaged 98.53 per cent.

Northern district, including counties of Dickinson, Saline,



Ottawa, Clay, Washington, Republic, Cloud, Mitchell, Jewell, Smith, Osborne, and Rooks, 50 samples gave an average germination of 88.78 per cent; 22 samples of early-gathered corn averaged 92.22 per cent, and 16 samples of late-gathered corn averaged 81.44 per cent.

Northeastern district, including counties of Johnson, Franklin, Osage, Lyon, Morris, Wabaunsee, Douglas, Shawnee, Jefferson, Leavenworth, Doniphan, Atchison, Jackson, Marshall, Pottawatomie, Riley, and Geary, 112 samples gave an average germination of 92.5 per cent; 63 samples of early-gathered corn averaged 95.46 per cent, and 33 samples of late-gathered corn averaged 88.87 per cent.

Of the 250 samples tested, 190 samples gave a germination above 90 per cent; of these, 127 samples tested 95 per cent, or better, and 25 samples gave a perfect germination. Only 60 samples out of the 250 tested below 90 per cent, 20 samples tested below 80 per cent, 9 samples tested below 70 per cent, and 3 samples tested below 50 per cent, the lowest germination being 30 per cent.

#### GENERAL CONCLUSIONS.

1. The average germination of Kansas seed-corn is high.
2. The germination of the early-gathered corn is, on the average, nearly 7 per cent better than the germination of the late-gathered corn.
3. The germination varies in the different districts, being lowest in the northern districts, but the early-gathered corn shows good vitality in each district.
4. Medium or medium early maturing varieties gave a higher germination than the early or very late maturing varieties.
5. There was little difference in vitality of seed-corn gathered late from the standing stalk or from the shock.
6. The early-gathered and well-saved seed-corn germinated 4.5 per cent better than the corn husked early and stored in cribs, and over 9 per cent better than the late-gathered seed-corn.

---

The Dairy Department has an Ayrshire cow that produced over 9500 pounds of milk in about nine and one-half months, under rather adverse conditions. Professor Kendall expects to get over 14,000 pounds of her before the close of the year, and since her milk tests about 4.2 per cent of fat her record will rank up among the first of the breed.

## Seen at K. S. A. C.

The Agricultural College at Manhattan is a wonder. The people who live within fifty miles of the College and who should know something, really cannot keep track of its accomplishments. Bird's-eye views of the grounds give fair ideas of the buildings, their size, location and all that, but the spirit which prevails on that hill is beyond all understanding. The College spirit is lost to sight but is mighty healthy and enthusiastic.

A representative of this paper drifted over the campus for several hours one day last week inspecting the prize cattle, hogs, sheep, chickens and Dairy Department, also the Printing Department and the girls' domestic science building. Few heads are sprinkled with gray down there; it is all youth and steam and high pressure and college spirit. The young men who are presiding over these different departments are anxious to walk willing victims to death and to talk of their pets day and night without interruption. The same is true also of the superintendent of the Printing Department.

The Domestic Science Hall is larger than our county high school and is presided over by a most competent lady who has fourteen teachers under her direction. They sew and cook scientifically, make beds heavenly, run the kitchen gloriously and do laundry work in the highest style of the art, all glorying in it and all fitting themselves to manage and boss some home some day from a cottage to a twelve room furnace-heated palace.

The Printing Department gives a four-year course in plain printing and newspaper making. It is presided over by a veteran who has been handling type in the best offices for a good many years.

In this round *The Times* representative made the acquaintance of the three prize steers mentioned so loudly from Chicago a few weeks ago; the fine young Ayrshire bull which is said to be the finest animal of his kind in the United States; some Duroc Jersey hogs so blue-blooded that their red bristles, tinged with blue, and white skins bring to mind the flag of America; chickens whose pedigrees are clear out of sight; some Percheron horses that have family trees as big as a county map; some Clydesdale geldings that will pull anything that can be hitched to them, and a whole lot of other dignitaries, including professors and chief clerks.

In this connection it might be proper to say that the pictures of President Waters do not do him justice. He is a comparatively young man of keen vision and self-assertive force which cannot be



evaded. When he says—as he does—that he is going to make Kansas produce one-third more winter wheat than it is now producing with the same acreage and labor, you just know that he is going to do it. He argues that as Kansas is the great winter wheat-producing section of the country, and that as the seed has not been of the best, nor the farming been of the best, the past few years considered from late scientific developments, it will be comparatively easy to add a few bushels to each acre. He is going to do that, and when he does the State will know that it made a mighty good investment when it placed its money on President Waters without asking before hand whether he is a democrat or a republican.

It rather pleased *The Times* to notice that the printing plant down there is a close duplicate of the one which does actual work here in *The Times* office every day. That is, three presses which bring in the money are practically the same—all the same make. The fine, working job type is the same, borders are similar, paper cutter the same, only the College has a new one which is the best made. Their general office arrangement the same. Mr. Rickman, the superintendent, is the right man in the right place, both theoretically and practically. His conundrum as to whether there is a good economic reason for a four-year course in printing in the regular College course is going to be answered by a strong affirmative vote as the years unwind. A few years in a general print shop will help any boy or girl whatever the life work. There are about fifty engaged in printing now. More to follow.—D. A. Valentine, in *Clay Center Times*.

---

## Report of the Spring Meeting of the Board.

The Board of Regents was in session from Tuesday to Friday of last week. The meeting had been called in place of the quarterly spring session, which is usually held in April. The members present were President Blackburn, Capper, Sponsler, Taylor, Blodgett, and Waters. Mr. Blodgett was only recently appointed to the position by the governor and this was the first regular session which he attended.

Among the general business of the meeting was the revision of the courses of study. The Faculty had worked at this problem for several months, had held almost innumerable committee meetings, course group meetings and general Faculty meetings and had considered the new courses from every conceivable stand

point, but it remained for the Board of Regents to take final action before the courses could be made the basis for the forthcoming catalogue.

President Waters has prepared an article for the *INDUSTRIALIST*, in which he explains the reasons for the changes made in the courses of study, and especially in the preparatory course, which was considerably raised. The article will be published in the next number. One of the main changes made is the introduction of industrial work into the two years of the preparatory course. Heretofore the boys and girls who came here from the county schools had to wait at least two years to get any shop or laboratory work, while the new course provides for such work right from the start. The raising of the standard of admission for the freshman year will make it possible to increase the time given to scientific and technical studies in the regular four-year courses. The number and character of the present four-year courses was not changed.

The revised course in general science has undergone a greater expansion than any of the others. Several groups of advanced scientific work have been arranged for, so that the student can select special lines of study and fit himself for teacher of scientific branches, and especially of agricultural branches, in the high schools of the State.

The contract was let for six greenhouses, to be built north of Horticultural Hall. J. C. Moninger, of Chicago, has the general contract. William Stingley, of Manhattan, will build the foundations and Hull & Son will install the heating apparatus.

R. G. Taylor, graduate of the University of Kansas, was elected instructor in history. He has been teacher in the Hiawatha, Kan., high school.

The bond of Mr. Stingley, who is building the gymnasium, was accepted. The bondsmen are J. B. Floersch, A. M. Floersch, S. N. Higinbotham, J. D. Colt, H. S. Willard, all of them citizens and business men of Manhattan.

The Mechanical Engineering Department was divided into three divisions, viz: Experimental and Power Engineering; Sanitary Engineering, and Steam and Gas Engineering.

Prof. J. W. Searson, professor of English at the State Normal School of Nebraska, was selected associate professor of English. He will teach chiefly rhetoric, and composition. Professor Searson is a graduate of the University of Nebraska and has had seven years experience in teaching English. In addition to his English work Professor Searson has conducted a course in journalism at



the State Normal School and has served on the committee which had supervision of debating work in all the high schools of the state for a number of years.

Doctor Brink will remain at the head of the Department of English and will continue his work as dean and assistant to the President, while Professor Searson will have immediate oversight of the sub-freshman and freshman work in English, under the direction of the head of the department.

Mr. Chase, of the University of Nebraska, was appointed assistant in farm mechanics in the Agronomy Department. His work here will begin at once.

Mr. E. G. Schafer, of the class of '07, at present a postgraduate student in the University of Illinois and last year assistant in agronomy at the Kansas State Agricultural College, was appointed assistant in agronomy for next year. His work here will begin June 1.

The Athletic Association was given twelve acres of land in the southwest corner of the main College farm for an athletic field.

---

## Study Farming and Cooking at Home.

The cry of back to the land has been heard in Kansas and those who have obeyed are anxious to make the most of their opportunities. With hogs up in the air, wheat soaring, and every farm product bringing top price, the farmers are not satisfied. They are seeking to increase the yield of their acres and looking to the Kansas Experiment Station and the Agricultural College to determine how this may best be done.

In order to meet the call for scientific knowledge in the best manner the College has prepared courses in many subjects and is now offering these to the people of the State. They have been arranged for the purpose of instructing those who are unable to attend the College, and are the embodiment of the same work offered to resident students.

The following are some of the courses arranged for correspondence instruction: Elementary Agriculture, Soils, Farm Crops, Stock Feeding, Orchardring, Vegetable Gardening, Landscape Gardening, Cooking, Sewing, Injurious Insects, Farm Dairying, Poultry Management, Farm Drainage, Highway Construction, and Dairy Manufacturing.

In offering this work by mail the College is attempting to answer the popular demand for a more thorough knowledge of

the many phases of agriculture and home economics and to encourage a systematic study along these lines. The work is not confined to a mere elementary discussion of each subject, but is planned to cover as much of the subject as can be handled at home without special laboratory equipment.

Each course will follow some designated standard text-book, which will be the text-book for the student, this to be supplemented by a series of questions and helps sent out by the department. The subject is divided into lessons, each being covered by a question blank. The first blank is sent with the text-book when the student enrolls. When blank No. I is corrected and returned, blank No. II goes with it. All papers will be sent to the College, there corrected, graded, and returned to the student. Upon the completion of the blanks the student will be given a final examination on the whole subject. This set of questions will be sent to some selected person in each county, in whose presence the student will work out the answers. A student who may later enter the Agricultural College will be allowed some credit for work successfully completed in this manner.

The cost of this instruction to the student has not yet been decided, but the charges will be very low—just such a fee as will meet the postage and the cost of grading the examination blanks. The courses are open to all residents of the State. Each student will, of course, be expected to buy the text-book, although two or more persons in a neighborhood may buy books together. This is not usually advisable. Definite announcement of the courses, text, charges, etc., will probably be made early in April.

---

### Good for Milo.

Milo Hastings, '06, formerly in charge of the Poultry Department of this College and at present assistant editor of the *New York American*, receives the following handsome write-up in *Poultry Culture*:

"The Kansas Experiment Station was the first of the Mississippi valley stations to install poultry work. It was in 1902 that Mr. M. Hastings, then a student at the Atchison County High School, "struck" Professor Cottrell, then agriculturist at the Kansas Experiment Station, for the job as poultryman at the Station. As an outcome of the interview, a little later young Mr. Hastings was recalled from a poultry farm in Illinois, where he was learning the commercial side of poultry raising, to take charge of the new work.



"The new department was housed in a building that had been discarded by the pig department. The work for the first year or two was of a quite elementary nature, due to the handicaps and lack of funds. But in 1904 and 1905 a first-class building was provided in which was conducted the first experiment station egg-laying contest in the country.

"Perhaps the most important work conducted by Mr. Hastings while at the Kansas Station was the study of the methods of actual poultry production on the farms of the State and the methods of marketing the poultry crop. This work was reported upon by Mr. Hastings in the bulletin entitled, 'The Hen's Place on the Farm.'

"Mr. Hastings resigned his position at the Kansas Station in 1906 and the following year was appointed by the Federal government to make investigation of the marketing of poultry products throughout the country. It is through this work that he became prominently known among poultry raisers. He is the author of the Federal bulletin, 'The Egg Trade of the United States,' and the inventor of the cold storage evaporimeter, of which the United States Department of Agriculture holds the patent."

This introduction of Mr. Hastings is followed by a discussion of the merits of his recent book, "The Dollar Hen."

---

## Industrial Education.

E. L. Holton, graduate student in the Teacher's College of the Columbia University, New York, has been chosen professor of industrial education for the Extension Department of the Kansas State Agricultural College. He will have charge of the introduction of agriculture, shop work and home economics in rural, graded and high schools of the State. He will also have charge of the corn contests, the boys' corn clubs, and the new correspondence courses.

Mr. Holton is a graduate of the University of Indiana and the Indiana State Normal. For four years he was superintendent of the Holton, Kan., schools, going from there to a similar position in Noblesville, Ind. He has been eminently successful in introducing industrial subjects in the schools where he has been and is making a specialty of this work in Columbia University. He is at present supervisor of industrial work in fifteen schools in and about New York city under the auspices of the Children's Aid Society. Mr. Holton comes well recommended by the people of Holton, teachers of this State, and by leading educators in the East, where his work has already attracted considerable attention.

## Movable Schools in Home Economics.

The Extension Department has arranged for several "Movable Schools in Cookery." Miss Brown and Miss Dow will conduct the first school at Beloit during the week beginning April 4. Then, beginning April 11, there will be two circuits of these schools continuing for eight weeks. Miss Dow, assisted by Miss Alice Skinner, '09, will conduct schools in Western Kansas (a week in a place)—schools at Cawker City, Kirwin, Phillipsburg, Minneapolis, Hays, Garden City, and two others not yet determined. Miss Brown, assisted by Miss Minnie Forceman, '09, will conduct schools beginning April 11 at the following places: Osage City, Burlington, Harper, Howard, Fredonia, Hiawatha, and one or two other places not yet definitely fixed. These are the first schools of the kind ever conducted in the West and no others exactly like them have ever been held anywhere so far as known here.

---

## Field Work in the Extension Department.

The field workers of the Extension Department are pretty busy these days in getting in touch with the people in a very practical way. Mr. Crabtree has been planting crops on Ex-Governor Crawford's farm in Cherokee county, planting corn, oats and peas across dynamited and undynamited plots, doing this work under the direction of Professor TenEyck, of the Experiment Station. From Cherokee county he went directly to Ness county to make a careful study of soil and crop conditions in that county, driving entirely across the county from south to north. Mr. Wheeler has been visiting his demonstration farms at McPherson, Great Bend, and other places, and also went to Scott City on Saturday to act as judge at the county horse show. Mr. Hinman spent most of the past week at Tonganoxie helping to plan for the building of some silos and preparing to organize a "Cow Testing Association." Mr. Holsinger has spent the week spraying an orchard in Doniphan county on Monday and Tuesday, and then spending the latter part of the week in visiting demonstration orchards in Franklin, Douglas and Miami counties. Mr. Gearhart spent the whole of last week in a trip over the new Santa Fé trail, helping to determine the best line and plan for the necessary bridges and culverts on that new roadway to be built from Syracuse to Hutchinson. Miss Brown left on Thursday for Stockton, where she spoke on Saturday before the Northwestern Kansas Teachers' Association. On Monday, April 4, she and Miss Dow will start at Beloit the first "Movable School in Cookery."

---



## Local Notes.

Manhattan is making preparations for installing a gas plant for light and heat purposes.

Eleven hundred ninety-seven students paid their term fee of three dollars during the first three days of the spring term.

Assistant Patterson, of the Animal Husbandry Department, went to Dighton, Saturday, to judge horses for the Lane County Horse Breeders' Association.

The *Tulsa Daily Democrat* publishes zinc etchings from which we learn that L. L. Dougan, junior student in the architecture course of this College in 1907, is doing high-grade architectural work and lots of it.

The sophomore class has elected the following officers: President, Merle Collins; vice-president, R. S. Hawkins; secretary, May Gonterman; treasurer, L. A. Tombaugh; member of Student Council, J. W. West, E. A. Vaughn.

Supreme Court Justice David J. Brewer, who died last Monday night in Washington, D. C., of apoplexy, was a citizen of Leavenworth when he was elected to the United States bench. In 1875-'77 he was a regular lecturer on business law in the Kansas State Agricultural College.

Pres. H. J. Waters went to Kansas City last Wednesday on College business. On Thursday he delivered the annual address at the Commencement of the Kansas City Veterinary College, and on Friday he spoke to the students of the Kansas State University on "Some Common Mistakes in Student Life."

The student committee in charge of the Commencement annual, the Royal Purple, report that they are getting their material in shape rapidly. The book will be a veritable picture gallery of the College and its inner life and is to cost only \$1.50. Twenty-five cents will be charged extra if it is to be sent by mail and fifty cents extra if it is to be a leather bound copy.

W. S. Gearhart, State highway engineer, was last week on a trip by automobile inspecting the old Santa Fé Trail from Hutchinson to Pueblo. This is a result of a request from a committee appointed from the several towns along the route, requesting his opinion on this subject, as they wish to build an overland route between Hutchinson and Pueblo.—*Students' Herald*.

Director Webster, Regent Taylor and Professor TenEyck inspected the Hays Branch Experiment Station Friday and Saturday of last week. Mr. Webster is much pleased over the general condition of affairs at that place. He reports the wheat in excellent condition. Professor TenEyck will take charge of the Hays Station June 1, though he will not move there until after Commencement.

The senior class has elected the following officers for the spring term: President, Jack Gingery; vice-president, Luberta Smith; secretary, Maude Estes; treasurer, Chas. Zoller.

Mr. Motormura, a Japanese student, was here Saturday and Sunday visiting his friends A. Miyawaki and Y. Hashimoto. Mr. Motormura is a graduate of Leland Stanford University and has been taking graduate work at Wisconsin University. Recently he has taken an extensive trip through the eastern states, and he is now on his way to his home land. He and Mr. Miyawaki were formerly classmates in the San Francisco high school.—*Students' Herald*.

The work of registration, under the stallion register law passed by the last legislature, has kept from three to four men and several clerks of the Animal Husbandry Department busy for the last four or five weeks in checking up the pedigrees and making out the certificates of registration. About twenty-four hundred stallions have been registered to date, approximately half of which are pure bred, the others being grades and cross-breeds. It is estimated that a thousand more are to be registered. The veterinary examination for soundness has been made under the direction of Doctor Schoenleber, of the College. A large number of accredited veterinarians have assisted in this work.

The Kansas State Agricultural College has at present 141 members on the Board of Instruction. These come from forty-nine different colleges and universities. Eight schools have more than two representatives here, while eight more have two each. The Kansas State Agricultural College has the largest representation, with thirty-six who claim her as their alma mater. Cornell follows with seven; Iowa State College, six; University of Chicago, five; University of Kansas, five; Ohio State University and Missouri University four each; and Minnesota University has three. The following have two each: Massachusetts Institute of Technology, Nebraska, Denison, University of Illinois, Fairmount, Michigan, Simmons, and Purdue. Then there are thirty-three more schools that have one representative each on our Board of Instruction.—*Students' Herald*.

The Chemical Department of the Experiment Station is conducting an experiment to determine the influence of small amounts of chemicals on the baking qualities of wheat flour. Flour from wheats grown on different soils differs in ash composition and baking value, and wheat exposed to unfavorable weather and storage conditions will give flours whose baking qualities are more or less impaired. The various grades of flour from the same wheat will also differ in baking qualities. To determine the possible role of chemical salts originally present in the wheat, and also of the organic compounds produced in the subsequent handling of the wheat, small quantities of chemicals in various amounts are added in mixing the dough. The influence of bran and bran extract is also studied. The details of this work are in charge of Assistants C. O. Swanson and R. C. Thompson.



## Board of Instruction (concluded from second page).

## INSTRUCTORS (Concluded).

|                                               |                                                          |
|-----------------------------------------------|----------------------------------------------------------|
| William L. House.....                         | Instructor in Woodwork, Foreman of Carpenter Shop        |
| Louis Wabnitz.....                            | Instructor in Machine Tool Work, Foreman of Machine Shop |
| Ambrose E. Ridenour, B. S. (K. S. A. C.)..... | Instructor in Moulding, Foreman of Foundry               |
| J. H. Hollar.....                             | Instructor in Forging, Foreman of Blacksmith Shop        |

## ASSISTANTS.

|                                                                       |                                                 |
|-----------------------------------------------------------------------|-------------------------------------------------|
| Miss Ina E. Holroyd, B. S. (K. S. A. C.), (K. S. N.).....             | Assistant in Mathematics                        |
| Miss Kate Tinkey.....                                                 | Assistant Librarian                             |
| Earl N. Rodell, B.S. (K. S. A. C.).....                               | Assistant in Printing                           |
| Chas. Yost.....                                                       | Assistant in Heat and Power Department          |
| Earle B. Millard.....                                                 | Assistant in Machine Shops                      |
| J. T. Parker.....                                                     | Assistant in Woodwork                           |
| E. G. Meinzer, M. A. (Olivet College).....                            | Assistant in German                             |
| Hugh Oliver.....                                                      | Assistant in Heat and Power Department          |
| Miss Charlaïne Furley, B. A. (Fairmount College).....                 | Assistant in English                            |
| Miss Jessie Reynolds, A. B. (University of Kansas).....               | Assistant in History                            |
| William C. Lane, B. S. (K. S. A. C.).....                             | Assistant in Electrical Engineering             |
| Miss Flora C. Knight, A. B. (University of Wyoming).....              | Assistant in English                            |
| Miss Grace H. Woodward (Boston School of Domestic Science)....        | Asst. in Domestic Science                       |
| Miss Margaret A. Mack (Kansas State Normal School).....               | Assistant in History                            |
| S. W. McGarrah, M. A. (Grove City College).....                       | Assistant in Mathematics                        |
| C. A. Arthur Utt, M. S. (Cornell College).....                        | Assistant in Chemistry                          |
| Miss Florence Warner, A. B. (University of Illinois).....             | Assistant Librarian                             |
| Miss Anna Gordon, A. B. (Iowa College).....                           | Assistant in History                            |
| Miss Bertha M. Johnston (Simmons College).....                        | Assistant in Domestic Science                   |
| Harrison E. Porter, B. S. (K. S. A. C.).....                          | Assistant in Mathematics                        |
| J. B. Parker, M. A. (Ohio State University).....                      | Assistant in Entomology                         |
| Allen G. Phillips, B. S. (K. S. A. C.).....                           | Assistant in Poultry                            |
| Miss Gertrude Cannon (Bethany College) (Oberlin Conservatory).....    | Assistant in Music                              |
| Miss Bertha Bisby.....                                                | Assistant in Mathematics                        |
| Fred M. Hayes, D. V. M. (K. S. A. C.).....                            | Assistant in Veterinary Science                 |
| Miss Bertha Donaldson (University of Chicago).....                    | Assistant in Domestic Art                       |
| Miss Elizabeth Putnam (Chicago Art Institute).....                    | Assistant in Drawing                            |
| L. E. Petty, A. B. (Wabash College).....                              | Assistant in Mathematics                        |
| Julius C. Cunningham, B. S. (K. S. A. C.).....                        | Assistant in Horticulture                       |
| Miss Annie E. Lindsey (Simmons College).....                          | Assistant in Domestic Science                   |
| Miss Amy Allen, B. S. (K. S. A. C.).....                              | Assistant in Printing                           |
| John E. Smith, B. S. (Oregon Agricultural College).....               | Assistant in Botany                             |
| R. C. Wiley, B. S. (Oklahoma A. & M. College).....                    | Assistant in Chemistry                          |
| Porter J. Newman, B. S. (Franklin College).....                       | Assistant in Chemistry                          |
| C. E. Griffin, M. S. (University of Michigan).....                    | Assistant in Chemistry                          |
| C. W. Nash, B. S. (Iowa State College).....                           | Assistant in Crops                              |
| Chas. Doryland, B. S. (K. S. A. C.).....                              | Assistant in Soils                              |
| R. C. Thompson, B. S. (K. S. A. C.).....                              | Assistant in Chemistry                          |
| R. H. Wilson, D. V. M. (K. S. A. C.).....                             | Assistant in Bacteriology                       |
| Miss Helen Huse, B. S. (K. S. A. C.).....                             | Assistant in Domestic Science                   |
| E. F. Kubin, D. V. M. (K. S. A. C.).....                              | Assistant in Veterinary Science                 |
| B. S. Orr, B. S. (K. S. A. C.).....                                   | Assistant in Mechanical Engineering             |
| Elmer Johnson, B. S. (K. S. A. C.).....                               | Assistant in Mechanical Engineering             |
| A. B. Nystrom, B. S. (K. S. A. C.).....                               | Assistant in Dairy Husbandry                    |
| A. Miyawaki, M. S. (K. S. A. C.).....                                 | Assistant in Experimental Dairying              |
| Geo. C. Wheeler, B. S. (K. S. A. C.).....                             | Farm Management, Farmers' Institute Department  |
| C. V. Holsinger, B. S. (K. S. A. C.).....                             | Horticulture, Farmers' Institute Department     |
| P. E. Crabtree.....                                                   | Farm Management, Farmers' Institute Department  |
| Miss Frances L. Brown, B. S. (K. S. A. C.).....                       | Domestic Science, Farmers' Institute Department |
| C. H. Hinman, A. B. (University of Nebraska).....                     | Dairying, Farmers' Institute Department         |
| W. S. Gearhart, B. S. in C. E. (University of Missouri)....           | Highway Engr., Farmers' Inst. Dept.             |
| Miss Ethel Byerly, (Drexel Institute).....                            | Assistant in Domestic Art                       |
| T. G. Patterson, B. S. (University of Minnesota).....                 | Assistant in Animal Husbandry                   |
| Mrs. Jessie Gulick.....                                               | Assistant in Library                            |
| Miss Mary Mudge, B. S. (K. S. A. C.).....                             | Assistant in Library                            |
| Miss Estella M. Boot, M. A. (Northwestern University).....            | Assistant in English                            |
| J. R. Jenness, B. S. (Denison College).....                           | Assistant in Physics                            |
| Harry Evans, B. S. (Ohio State University).....                       | Assistant in Entomology                         |
| Miss Ada Baum (Chicago Musical College).....                          | Assistant in Music                              |
| Miss Ethel K. M. Ping (Sherwood Music School).....                    | Assistant in Music                              |
| E. P. Johnston, A. B. (Oberlin College) (Emerson Coll. of Oratory)... | Asst. in Public Speaking                        |
| Dean H. Rose, M. A. (Washington University, St. Louis).....           | Assistant in Botany                             |
| Miss Anna Monroe, B. S. (K. S. A. C.).....                            | Assistant in Botany                             |
| Miss Madge Kay, B. S. (University of Chicago).....                    | Assistant in Mathematics                        |
| C. A. Jackson, B. S. (Purdue University).....                         | Assistant in Mathematics                        |
| D. O. Stone, C. E. (Cornell University).....                          | Assistant in Civil Engineering                  |
| Paul W. Graft, B. S. (Connecticut Agricultural College).....          | Assistant in Botany                             |
| T. R. H. Wright, B. S. A. (University of Missouri).....               | Assistant in Animal Husbandry                   |
| L. A. Chase.....                                                      | Assistant in History                            |
| Henry Wagner.....                                                     | Assistant in Heat and Power                     |
| A. E. White, M. S. (Purdue University).....                           | Assistant in Mathematics                        |
| H. W. Edson, A. M. (Harvard University).....                          | Assistant in English                            |
| M. R. Bowerman, B. S. (Michigan Agricultural College)....             | Assistant in Mechanical Engineering             |
| Frank C. Harris, B. S. (K. S. A. C.).....                             | Assistant in Architecture and Drawing           |
| Geo. A. Westphalinger.....                                            | Band Leader                                     |
| Wm. A. Lamb.....                                                      | Superintendent of Poultry Plant                 |
| Floyd Howard.....                                                     | Farm Foreman                                    |

# THE INDUSTRIALIST

Historical Society

Vol. 36

Saturday, April 9, 1910

No. 23

*Issued Weekly By*  
**Kansas State Agricultural College**  
*Manhattan, Kansas*



~~~~~  
Published by
PRINTING DEPARTMENT
J. D. Rickman, Supt.

Entered at post-office, Manhattan, Kan., as second-class matter. Act of July 16, 1894.

THE INDUSTRIALIST.

PRES. H. J. WATERS.....	Editor-in-Chief
DR. J. D. WALTERS.....	Local Editor
DR. J. T. WILLARD.....	Alumni Editor

BOARD OF REGENTS.

HON. W. E. BLACKBURN, President.....	Anthony
HON. J. O. TULLOSS ['99], Vice-President.....	Sedan
HON. EDWIN TAYLOR.....	Edwardsville
HON. ARTHUR CAPPER.....	Topeka
HON. A. L. SPONSER.....	Hutchinson
HON. TOM BLODGETT.....	Wichita
PRES. H. J. WATERS, Secretary <i>ex-officio</i>	Manhattan

BOARD OF INSTRUCTION

FACULTY.

HENRY J. WATERS, B. S. A. (University of Missouri).....	President
ED. H. WEBSTER, B. S. A. (Ia. S. C.), M. S. (K. S. A. C.).....	Director Exp. Sta., Dean of Agriculture
JOHN D. WALTERS, D. A. (K. S. A. C.).....	Professor of Architecture and Drawing
JULIUS T. WILLARD, D. Sc. (K. S. A. C.), Prof. of Chem. V.....	Director Exp. Sta., Dean of Science
BENJ. L. REMICK, Ph. M. (Cornell College).....	Professor of Mathematics
BENJ. F. EYER, E. E. (Armour Institute of Technology).....	Prof. of Electrical Engineering
HERBERT F. ROBERTS, M. S. (K. S. A. C.).....	Professor of Botany
WILLIAM A. MCKEEVER, Ph. M. (University of Chicago).....	Professor of Philosophy
EDMUND B. MCCORMICK, S. B. (Mass. Inst. of Tech.).....	Prof. of Mech. Eng., Dean of Mech. Arts
ALBERT DICKENS, M. S. (K. S. A. C.).....	Professor of Horticulture, Supt. of Grounds
CLARK M. BRINK, Ph. D. (U. of City of N. Y.).....	Prof. of English, Dean of the Coll., Asst. to Pres.
ALBERT M. TEN EYCK, B. Agr. (University of Wisconsin).....	Prof. of Agronomy, Supt. of Farm
RALPH R. PRICE, M. A. (University of Kansas).....	Professor of History and Civics
JULIUS E. KAMMEYER, M. A. (Central Wesleyan College).....	Professor of Economics
JOHN V. CORTELYOU, Ph. D. (Heidelberg).....	Professor of German
OLOF VALLEY, B. M. (Chicago Conservatory).....	Professor of Music
F. S. SCHOENLEBER, D. V. S. (Chicago Vet. College).....	Professor of Veterinary Science
ROLAND J. KINZER, B. S. A. (Iowa State College).....	Professor of Animal Husbandry
WALTER E. KING, M. S. (Cornell University).....	Professor of Bacteriology
THOMAS J. HEADLEE, Ph. D. (Cornell University).....	Professor of Entomology
CHAS. H. BOICE, First Lieutenant Seventh Cavalry, U. S. A.....	Professor of Military Science
JOHN C. KENDALL, B. S. (New Hampshire A. & M. College).....	Professor of Dairy Husbandry
JOHN O. HAMILTON, B. S. (University of Chicago).....	Professor of Physics
MRS. MARY P. VANZILE, (Iowa State College).....	Prof. of Domestic Science, Dean of Women
JOSHUA D. RICKMAN.....	Superintendent of Printing
MISS MARGUERITE E. BARBOUR (Sargent Nor. Sch. Phys. Tr.).....	Director of Physical Training
MISS ANTONETTA BECKER (Drexel Institute).....	Professor of Domestic Art
MISS GERTRUDE BARNES.....	Librarian
LOWELL E. CONRAD, M. S. (Lehigh University).....	Professor of Civil Engineering
JOHN H. MILLER, M. A.....	Superintendent Farmers' Institutes
MISS MARGARET BUTTERFIELD.....	Secretary
WILLIAM R. LEWIS.....	Custodian

ASSISTANT PROFESSORS.

JACOB LUND, M. S. (K. S. A. C.).....	Superintendent Heat and Power Department
ANDREY A. POTTER, S. B. (Mass. Inst. of Tech.).....	Asst. Professor of Mechanical Engineering
ROBERT H. BROWN, B. M. (Kan. Con. of Music), B. S. (K. S. A. C.).....	Asst. Professor of Music
GEO. A. DEAN, M. S. (K. S. A. C.).....	Assistant Professor of Entomology
WILLIAM H. ANDREWS, A. B. (University of Chicago).....	Assistant Professor of Mathematics
ROBERT E. EASTMAN, M. S. (Cornell University).....	Assistant Professor of Forestry
LELAND E. CALL, B. S. (Ohio State University).....	Assistant Professor of Soils
ROY A. SEATON, B. S. (K. S. A. C.).....	Assistant Professor of Mechanical Engineering
LEONARD W. GOSS, D. V. M. (Ohio State University).....	Asst. Professor of Veterinary Science
GEO. E. BRAY, M. E. (University of Minnesota).....	Asst. Prof. Mech. Engineering, Supt. of Shops
MISS ULA M. DOW, B. S. (K. S. A. C.).....	Assistant Professor of Domestic Science
H. H. KING, M. A. (Ewing College).....	Assistant Professor of Chemistry
JOHN B. WHELAN, M. A. (University of Nebraska).....	Assistant Professor of Chemistry
C. O. SWANSON, M. Agr. (University of Minnesota).....	Asst. Prof. of Agricultural Chemistry
ROBT. J. BARNETT, B. S. (K. S. A. C.).....	Assistant Professor of Mathematics
LOUIS H. BEALL, A. B. (Denison College).....	Assistant Professor of English
WILMER E. DAVIS, M. S. (University of Illinois).....	Assistant Professor of Botany
F. G. KING, B. S. A. (University of Missouri).....	Assistant Professor of Animal Husbandry
K. W. STODDER, D. V. M. (Iowa State College).....	Assistant Professor of Veterinary Science

INSTRUCTORS.

Miss Ada Rice, B. S. (K. S. A. C.).....	Instructor in English
Miss Ella Weeks, A. B. (University of Kansas).....	Instructor in Drawing
Miss Daisy Zeininger, B. A. (Fairmount College).....	Instructor in Mathematics
Theo. H. Scheffer, M. A. (Cornell University).....	Instructor in Zoölogy
L. D. Bushnell, B. S. (University of Michigan).....	Instructor in Bacteriology
M. Francis Ahearn, B. S. (Massachusetts Agricultural College).....	Instructor in Horticulture
Burton Rogers, D. V. M. (Iowa State College).....	Instructor in Veterinary Science
Kirk H. Logan, B. S. (University of Kansas).....	Instructor in Physics
Miss Clara Willis (Framingham Normal Institute).....	Instructor in Domestic Science
Miss Ina Cowles, B. S. (K. S. A. C.).....	Instructor in Domestic Art
Miss Gertrude Stump, B. S. (K. S. A. C.).....	Instructor in Domestic Art
Miss Annette Leonard, A. B. (University of Kansas).....	Instructor in English

(Board of Instruction concluded on last page.)

THE INDUSTRIALIST

VOL. 36.

MANHATTAN, KAN., APRIL 9, 1910.

No. 23

Kansas Brides in Training.

Under this heading a correspondent of the *Kansas City Star* gives the following vivid description of the work of the Domestic Science and Domestic Arts Departments of this College:

Have you ever seen about two hundred and fifty brides-to-be all in one bunch? No? If you would like to, go to Manhattan and out to the Agricultural College, for there they are. You probably will not be able to pick them out of the five hundred girls, unless you have the opportunity to examine closely their engagement fingers, but they are there just the same and they constitute more than fifty per cent of the girl enrolment of the Domestic Science Department of the school.

Why are they there? They are preparing themselves to become home makers so that next April, May or June, when they have been decked with orange blossoms and sprinkled with rice, they will be able to go to their new homes, with their equally new husbands, and take charge without being compelled to call in mother to teach them how to cook or sew.

In the school there are more than five hundred domestic science students, and it is said that more than half of these have already plighted their troth, and are learning home making for a spring beginning.

There has been much said and written about the drudgery of farm life for women. The old and the middle-aged farmer remembers too well what his wife went through in hardship and household toil in the earlier days and he is determined that his daughter shall be spared that as far as possible if money can do it. As a rule, your Kansas farmer has money these days, and he is willing to spend it for his own comfort and the comfort of his family. He has discovered that by sending his daughter to the College for six months she will come out in the spring prepared to begin home making.

"That's what it is, 'home making' and not housekeeping," said Mrs. Mary P. VanZile, professor of domestic science, dean of women. "We think 'home making' has a much broader scope than mere housekeeping. Our plan is to educate the hand and

head and to teach these girls to meet the problems of life whether they are to be married this spring or some other spring. The assumption is that practically all of them are to be married some time. We begin at the very bottom and teach these girls not only to cook, but to neatly serve the meals which they have prepared. How many times on the farm is there someone injured and a doctor miles away? These girls of ours are given instruction in giving first aid to the injured. They are shown how to care for a wound and ease the patient until the physician gets there. Don't mistake me. They're not intended to take the place of the doctor, but merely to give temporary relief. Many a life is saved in that way.

"How many wives, city or country, know how to prepare 'dishes' for the ill? Not many. And yet our girls, when they leave here, will have a thorough knowledge of that. It often happens that doctors are able to tell what shall be given the patient and yet I presume there are not many of them who are able to tell how to prepare that food. Our young women will not have to be told. They'll know.

"Now, don't laugh," continued Mrs. Van Zile, who herself prepared the way by smiling in anticipation, "but our girls are given elementary instruction in plumbing. Not that they can take a plumber's place, but they are merely given instruction in the use of the plumbing system. With this knowledge we have found that plumbing repairs are minimized to about one-half."

"But," was suggested, "in your cooking instruction aren't you apt to go beyond the requirements of the average farm family?"

"We guard against that," was the answer. "For example, in the kitchen we require them to substitute in utensils. We recognize that in the modern city kitchen there are a great many more conveniences than the average farmer's family has, or can afford, or desires. We show these girls how to get along without these extra utensils by substituting with those they already have.

"Take the average farmer's home, country hotel or even town home," said Mrs. Van Zile, "and ask for eggs. Probably in nine-tenths of them you will be expected to take your eggs fried. If you go into one of our girls' homes you will find that feature eliminated. She has been taught more than a dozen ways to prepare eggs. And I might mention, incidentally, she has also been told that the frying of eggs, or almost anything else for that matter, is poor cookery and poor kitchen management. You seem surprised? Well, its true. Anything cooked in fat is not so wholesome as if cooked in almost any other way. It's the same way

with potatoes. We show them our various ways of preparing this necessary staple, but discourage frying them except occasionally.

"When one of our girls is through here she is prepared to go into any home and meet all the requirements there. Our girls are so educated that home making is not drudgery. One hears so many women speak of her house work as 'mere drudgery.' There should be no such thing as drudgery, provided the wife is educated to do her work right in the first place. The whole thing is to start right, and that is exactly our function here—to teach them to start right. Then the word 'drudgery' has been wiped out of the home maker's vocabulary."

Just then dinner, or rather luncheon, for it was a noonday meal, was announced.

"We'll now see," said Dean Van Zile, "a practical demonstration of what our girls have learned to do."

The visitor went down stairs to a spacious dining-room. Its floor was of concrete. Four tables, each seating four persons, were arranged on each side of the room. Standing against the wall, opposite each table, as erect as a soldier on parade, was a young woman dressed in simple spotless white. Beside her was a door leading into a kitchen. There were eight of these kitchens, or rather, six and a double one, or a kitchen for each table. These kitchens are about eight feet square and are equipped with a gas range, the necessary utensils of the ordinary household of four persons, work bench, and china closets. At the beginning of the week one of the four young women, who constitute the kitchen "squad," is the cook, another her assistant, the third, dishwasher, and the fourth, waitress. The next week the dishwasher may be cook and the former cook dishwasher. In other words, the girls rotate in office. At the beginning of the week the girl who happens to be cook is handed four dollars by Miss Grace Woodward, instructor in charge of this particular line of work. The cook with this four dollars is to furnish five meals for four persons. These five meals consist of one three-course dinner, two three-course luncheons, one five-course dinner, and one five-course luncheon. These meals are all served at noon.

The members of the Faculty eat here and they pay twenty-five cents a meal, or \$1.25 for their five meals. As the cook gets only one dollar out of the \$1.25, the extra quarter is taken out to furnish ice and to pay for linen laundry. The College maintains a general store for staples. The cook buys from this store and every item is charged to her. In that way she is given practical instruction in economy in buying. Every afternoon the girl who

happens to be cook, with money in pocket, goes to Manhattan and shops in the meat shops and in other places where things other than staples are kept.

Each cook has her own account-book in which she keeps an accurate account of every cent expended. The increased cost of food makes no difference. She must keep within her allowance. The competition between the eight kitchens is keen. The girls take pride in seeing which squad can serve the best and daintiest meals within the four-dollar limit. In some instances a week's meals have cost a kitchen only \$3.15, and it's the rarest exception when the cost goes above four dollars. This dining-room is self-supporting. In fact, there is generally, at the end of the month, some money left. In that event the "profit" is turned back to the department.

There is no skimping as to table linen. Each kitchen is allowed two table-cloths, eight napkins, two centerpieces for the table, and two tray doilies.

But what of the luncheon to which the visitor was served? He was first impressed by the neatness of the table linen. The tableware was arranged as correctly as if luncheon were being served at some social cackle-fest. A centerpiece of simple flowers completed the picture. And the visitor was not "company." The meal was the same as it would have been had he not been there.

The young woman "waitress" first served a cranberry ice. It was delicious. Next came baked salmon with a home-made tomato sauce, that might rightfully be called "a la St. Regis," while on the same plate were dainty potato balls, garnished with parsley, radishes, and mashed turnips. Then came a nut salad in cases, with dainty sandwiches. Finally she brought "parfait" and cake. The visitor was a bit dubious as to what was "parfait" when he saw it listed on the hand-lettered bill of fare, but he found out. If you don't know order it somewhere. It's worth while, that is, if it is made as made by the "Aggie" girls. Everything was made in that little kitchen.

But you may ask: "Isn't that a good deal of style to teach a farmer's daughter and a would-be-farmer's bride?" Ask one of the pretty young women instructors, and by the way they are all pretty, and your answer will probably be:

"Not at all. There is a constant cry for improved social conditions on the farm. If the wife can be taught how to make her home daintier through the kitchen, and at very much less expense, because of a good practical training, is it not better than the old way when the watch cry was 'drudgery?'"

An Editor Visits the College.

Mr. and Mrs. W. C. Palmer, of Jewell City, Kan., visited the College while on their return trip from attendance at the meetings of the State Editorial Association. Mr. Palmer gave an interesting talk to the classes in printing, and being an old-time all-around printer, and at present editor of the Jewell City *Republican*, he could speak authoritatively upon all phases of the newspaper business. Of his visit to the College he says:

"There is one institution in Kansas that is getting nearer to the people every day. That is the State Agricultural College at Manhattan. It is getting nearer to them because it is interested in the things they are interested in, and where the people can not go to the College it is taking the College to them. There are some conditions that the Kansas farmer has to face, there are some tough nuts to crack and some hard problems to solve. The College is taking these up and by scientific methods and patient experimenting is endeavoring to help the farmer solve his problems. It has an honest purpose to make itself useful, to actually and practically serve the people of this State; and that is what it is doing. The pure-bred corn propaganda and the improved seed-wheat doctrine has already to our knowledge put dollars in the pockets of Jewell county farmers. The hog-cholera serum is so nearly a demonstrated success that you can count on its being perfected, and that one thing will be worth more to the State than the College and its 700-acre farm ever cost. There are two classes of people that the College lays itself out to entertain. One class is the farmers, and the other is the editors. The editors get in on the deal because it is believed that through them more farmers can be reached. We spent a busy day at the College, but it would take a week to see it.

"One is impressed by the earnestness of the student body. They have the movement of busy people who have an appointment to meet. The halls and passageways between the buildings throng with them between the recitation periods, but by the time the electric bells have rung the whole campus is as quiet as Sunday, and 2000 students are engrossed in their various duties. It is a sight to see them in the machine shops, in the departments for iron workers, wood workers, electrical appliances, the dairy, the Domestic Science Department, where everything relating to good housekeeping, including cooking and dressmaking, is taught. Every day the domestic science girls prepare and serve a luncheon. The girls are divided into groups of four—a cook, an assist-

ant cook, dishwasher, and waitress. The Faculty members pay \$1.25 per week for their luncheons and College guests are taken there to dine. The department must be self supporting, and the cook is given her allowance and required to go into the market, buy her supplies, and boss the job of preparing a three-course luncheon. There are eight kitchens and as each girl successively fills each position, and strict account is kept, there is much rivalry as to which girl shall prepare the best dinner for the least money. We understand that it is quite customary for the girls who are wearing their "solitaires" to go to College and take the domestic science course. Probably the next legislature will make this a compulsory preliminary of the issuance of the license, and thus save many of the noblest and bravest of our land from the clammy grasp of dyspepsia. We noticed two Jewell City girls working at the job as though they had something definite in view. In the dressmaking department girls are taught to make their own clothes, and actually do make them. The only expense in connection is to furnish their own material.

"The printing-office naturally was a place of interest to us. One thing we feel sure of, Superintendent Rickman will never be able to turn out half enough printers to supply the demand, because they are being trained right, and there is a loud call for such young men to serve as foremen in the printing-offices everywhere. The printing course is thorough, and it fits a young man who has a head on him to start with, for any department of the newspaper work. We think one year's training under Superintendent Rickman worth two years under any other man we know. Certain it is that no boy who comes out of his department will ever be a slouch. Accuracy, neatness, promptness, punctuality, are cardinal virtues in his shop, and he has a class of boys and girls who are there to learn and to win out. We hope soon to see a linotype added to the equipment for the training of those who stay for the fourth year of the course. Boys no longer have time to learn a trade and also get the education that is required in these days; but at this school they are taught their trade while getting their education, and when they are graduated they find a good job waiting for them with a chance to climb higher and become owners of their own business.

"One thing that took our fancy was the fine herd of dairy cows—Guernsey, Jerseys, Holsteins, Ayrshires. They were beauties. The College has three silos, and recommends them without reserve. They also have a milking machine, but as the cows are on record, all their milk being weighed and tested, it isn't a fair

shake to milk them with the machine, as some cows will not do their best unless milked by the same person regularly, by hand. The prize steers and Percheron horses show every evidence of being proud that they are 'college bred.' The Duroc hogs at the farm are as fine as we ever saw anywhere, and the Berks. are good, but we know where better Poland-Chinas could be found. The cholera-serum station is about two miles from the other stock, and 'no admittance' cards are posted, as cholera that is the real thing is kept there to test the immunes and prepare the serum. We looked to see if the College farmers practice what they preach and actually keep the barnyard manure hauled out on the land, and we give them credit for doing a pretty good job. They have brought those worn-out hills up to a fine state of fertility. President Waters, Dean Webster, Superintendent Rickman and others found time to show us everything we had time to see. We think the right man has been found for the head of this big institution. Agriculture is his specialty and he believes in training young people not only to know things but to be able to do things.

"It was pleasant to see an occasional familiar face in the throng. Roy A. Seaton is assistant professor of mechanical engineering, John McClung is in his senior year, Clarence Drake, Miss Matah Schaeffer, Albert and Arthur Berry, Miss Gladys Seaton, Frank Kemmerer, Vinton Detwiler, Arthur Strohm, Harry Overholt, Roy Johnson, Miss Esther Berry and Miss Georgia Welstead are students and doing good work."

Sources of Seed Wheat for Kansas.

For several years the Agronomy Department of the College has been aiding the farmers, millers and elevator men in securing good seed wheat. A limited amount has been supplied each year by the College and the Fort Hays Station. In addition to this a list of farmers having seed wheat for sale has been prepared and distributed. Last year a list giving names and addresses of 85 men from whom seed wheat could be obtained was supplied to those desiring it. This wheat was grown from seed originally coming from the Experiment Station, and about 75,000 bushels were offered for sale by these men.

In addition to this the Agronomy Department supplied 1165 bushels of good seed. This was sold to 125 farmers within the State. There will undoubtedly be a good demand for suitable seed wheat this fall.

In order to be able to recommend any seed wheat offered for sale by the farmers of the State, it is planned to send out competent men to inspect the fields between the time of heading out and harvesting. Since the time during which this work can be done is quite limited, it is desired that all farmers growing wheat which they expect to sell for seed send the following information regarding their 1910 wheat crop to L. A. Fitz, Manhattan, Kan., care of College.

1. Name of variety.
2. When and where did you obtain seed of this variety?
3. How long have you grown it?
4. What has been the average yield per acre secured from it?
5. How does this yield compare with that from your other wheat?
6. How many acres of this variety will you harvest this season?
7. What yield do you expect?
8. Location of farm. (Give county, with distance and direction from nearest town or post-office.)
9. Give any additional information or suggestions which you deem to be helpful to the work.

This information should be forwarded not later than May 1, 1910.

Silage and Silo Construction.

The College Extension Department is mailing this week bulletin No. 4, Vol. II, of the *Agricultural Education* series. The number contains a carefully prepared article by C. H. Hinman, institute assistant in dairying, on "Silage and Silo Construction." The pamphlet contains seventy-two pages of reading-matter and a large number of illustrations and covers the subjects of Silage in Farm Economy, Chemistry of Silage, the Feeding of Silage, the Ensilage of Alfalfa and other Legumes, the Ensilage of Sorghums, the Handling of Corn for Silage, and Silo Construction.

Supt. J. H. Miller, of the College Extension Department, introduces the pamphlet with the following announcement: "The very great interest among Kansas farmers in the business of dairying justifies the Kansas Agricultural College in putting out this compendium of information relative to a most important adjunct to dairying, the silo. This pamphlet will be mailed free to all members of farmers' institutes and, as the need is great, it will also be mailed to others on request. The farmers' institute is really a College organization, and help can be given better through that organization. We hope every progressive farmer in Kansas will be identified with the institute movement and thus make it easier and more economical for the College to coöperate with him. Not

only is the College ready to aid through bulletins and pamphlets and by correspondence, but it will give aid in the building of silos of any type, dairy barns, etc., as far as possible with the limited force available. As a matter of economy this work should be arranged for some time in advance to guard against special trips, and then each man assisted will only need to meet his small proportion of the traveling expense. No charge will be made for service. In addition to this kind of help the Extension Department will send a man on similar circuits for visiting and inspecting herds and dairies, on request."

Educational Conditions in the East.

The following letter from Judge A. M. Story, former president of our Board of Regents, now of Hagerstown, Md., will be interesting not only to the many friends of the judge, but to all persons interested in educational conditions in the East:

"I now have the pleasure of advising you that I am located for a time at least. You observe I say located. I don't mean by that that I am now at home or have any fixed place of habitation. I work during the day in the factory, I take my meals at a boarding-house, I room at another place, and have to go to the creek to drink. (Thirty years of residence in Kansas and a possible connection with the Baptist church has made me very partial to water.)

"There is little difference between the people here and the people of the West. I think the idea that Eastern people are radically different from those in the West is all nonsense. However, there is one condition here that I have observed that is very much different than conditions at Manhattan. It was always a pleasure to me to see the young men and women of your town on their way to College, and still greater pleasure to know that the most of them made very creditable progress in the College.

"That is entirely different here. A few days ago I was at a printing establishment in this city for the purpose of ordering some supplies for use at our plant, and arriving there just before one o'clock I noticed the people who worked at the printing plant check in. To my surprise, a very large majority of these people were girls that I would judge from twelve to fifteen years of age.

"My visit there was not on Saturday nor on a holiday, and so far as I could determine these children were working there continuously. There may be other factories or manufacturing industries in this town employing the same class of help. My

notion is that this is not right. These young people should be in school, just plain, ordinary school, yet it is one of the characteristics of a manufacturing town, and more especially where the parents have possibly been employed at factories, that the children follow in their footsteps. I am very free to confess that that is one feature in the East that is very far below the standard fixed in the West.

"I have just been discussing with our stenographer the question of child labor and I am advised that girls will attend school until they are about ten years of age and have reached probably the sixth grade, when they discontinue all school attendance and enter some of the various factories here and make from one to fifteen dollars a week.

"We have at this place two silk factories, four or more knitting mills, one glove factory, several printing-offices, and probably some other places where children are employed. In addition to these, we have an automobile factory, pipe-organ and several other large industries—all of this in a town of about 22,000.

"I trust I am not sentimental on the question of education, but would prefer to be called cranky. This whole thing is wrong. I cannot understand why the legislature has not corrected it."

Town Improvement Meetings.

Prof. H. D. Hemenway, of Northampton, Mass., was engaged some time ago by the College to assist in a campaign of about two weeks in eastern Kansas with the idea of interesting the children of the towns in the home gardening movement and in general matters pertaining to the beautifying of the town. The campaign will begin April 11, and for the first week Professor Hemenway will be accompanied by the superintendent of the Extension Department, and during the second week he will be accompanied by Mr. E. L. Holton, who has just been elected professor of rural education. This campaign will begin April 11 at Girard; 12, Columbus; 13, Parsons; 14, Winfield; 15, Newton; 16, Herington; 18, Emporia; 19-20, Topeka; 21, Hiawatha; 22, Seneca.

The Dairy Department has had much trouble this winter getting the necessary cream for its demonstration work. This spring the conditions are even worse, and it is planned now to send a cream wagon west and southwest of town to gather milk and cream right at the farms.

Local Notes.

Professor McKeever spoke in chapel last Saturday on "Physical Training."

Secretary Butterfield reports that 1255 students paid their incidental fee for the spring term, up to April 6.

Doctor Headlee and Gene Blair were down in the southwestern part of the State last week to demonstrate spraying work.

The Secretary is busy preparing copy for the forthcoming catalogue. The list of alumni is nearly completed and the student list is well under way.

President Waters has lately rented the handsome brick residence directly south of the Presbyterian church and is making preparations to move into it.

Junior student Overholt, of the architecture course, has accepted an offer of well-paid work by a Kansas City architect. He will join his class again next fall.

Mr. W. S. Gearhart, highway engineer, held a good roads meeting in Washington on Friday, April 8, and another similar meeting in Frankfort on Saturday, April 9.

The sympathies of many friends are with Professor and Mrs. Swanson in the loss of their little daughter Ruth, who died from pneumonia Friday morning, April 8, at about eight months of age.

Marion Scott, of Agra, Phillips county, was at the College this week to inspect our large silos. He reports that there are many farmers in his county who are making preparations to build silos for increasing and bettering the output of their milk herds.

W. E. Miller, student from '96 to '98, now editor of the *St. Marys Star*, addressed the classes in printing last Friday afternoon. A synopsis of Mr. Miller's talk will appear in next issue of the *INDUSTRIALIST*. He also spoke to the student body at chapel exercises Saturday morning.

Mr. C. H. Hinman, assistant in dairying in the Extension Department, visited Osage City, Reading and Emporia last week, conferring with men who wish to build silos. About April 12 or 13 Mr. Hinman and Professor Kendall will go down to Linwood to supervise the erection of a concrete metal-lath silo.

A test of the turbines at the Rocky Ford power plant was made last week and all the machinery was found to work satisfactory. The cement poles for the line have all been set down to Bluemont and the copper cable is being strung, but the water wheels have not yet been connected with the dynamo and it will be two or three weeks before power can be delivered at Manhattan. If this power (from four hundred to eight hundred horse-power) can be sold cheap in Manhattan it will mean much for the development of the city.

Miss Frances Brown, of the Extension Department, and Miss Ula Dow, of the Domestic Science Department, are holding this week at Beloit the first "Movable School in Home Economics" ever held in Kansas, and the first of its kind ever held anywhere. Mrs. Van Zile spent Friday in Beloit to note progress and suggest possible improvements for the other fifteen schools yet to be held this spring.

The article from the *Kansas City Star*, reprinted in this issue of the *INDUSTRIALIST*, brought a well-written letter to the College this week. The writer of the peculiar document, who is a well-to-do young farmer down in one of the best agricultural districts in Missouri, wants further particulars about the education, and especially about the personnel of the "Kansas Brides," as the *Star* calls them. We wrote him that his letter was "previous" to the extent of at least two months; that it would not do to demoralize the senior class with that kind of literature. However, we have filed his request for future use and maybe we will post it on the bulletin-board down the hall a day or two before Commencement.

Director Webster, of the Experiment Station, returned last Thursday from Dodge City, where he had been to look over the condition of things. He reports the tree plantation and the crops in excellent condition. While it has not rained out there since the middle of February the ground is in good condition, containing enough moisture to mature the wheat should it not rain till harvest. H. W. Baker, who finished his work as a senior at the College and will graduate next June, assumed control at the Dodge City Forestry Station on April 1. He will take his family there at once. Christian Jensen, the former foreman, was transferred to Hays Branch Experiment Station as assistant in orcharding and forestry.

Alumni and Former Students.

W. P. Schroeder, '06, has recently taken a position with the Iowa Dairy Company, Dubuque, Iowa, and is in charge of its butter and ice-cream department.

J. B. Peterson, '08, and Carrie York, '09, were married March 27, 1910, at the home of the groom's sister in Seattle, Wash. They will make their home on their farm near Montborne, Wash.

Herbert R. Groome, '07, and Maude McClain were married Saturday, March 19, 1910, and are now at home at Jewell City, Kan., where Doctor Groome is practicing his profession of veterinary medicine.

Inez (Palmer) Barrows, '96, and her husband have bought a farm near Clifton, Kan., and have moved onto it. This is something like a home-coming for Mrs. Barrows, as she formerly lived near there.

E. M. Haise, student in 1896, and now a prosperous farmer of Russell county, was a much interested visitor of the 6th instant.

Homer Derr, '00, has been elected principal of the Sweetgrass County High School, Big Timber, Mont. He will commence his duties next September, receiving a generous salary. His present address is 670 S. Montana street, Butte, Mont.

Gertrude (Hole) Campbell, '06, and her husband, Dr. D. M. Campbell, former student, should be addressed: Care of Abbott Alkaloidal Co., Ravenwood Station, Chicago, Ill. Mr. Campbell recently resigned his position as milk inspector, Topeka, Kan., and accepted one with the above named company.

R. S. Kellogg, '96, has resigned his position in the Forest Service and is now secretary of the Hemlock and Hardwood Association of the Northwest, Wausau, Wis. The experience that Mr. Kellogg has had during his long connection with the Forest Service has doubtless prepared him to be a valuable man in his new position.

Emma (Haines) Bowen, '67, is reminded by the death of Justice Brewer that he was the one who delivered the first Commencement address of this institution in 1867. At a later date, while associate justice of the Kansas Supreme Court, Judge Brewer was connected with the College as a non-resident lecturer on practical law.

Milo M. Hastings, who graduated from the State Agricultural College in 1906, and who was the first person to take up poultry work in that institution in a systematic manner, has been engaged by the United States Department of Agriculture for some time past in a special investigation of the poultry industry of the country. He is a native Kansan, and during his term of service with the Kansas Agricultural College was the author of a bulletin entitled "The Hen's Place on the Farm." While connected with the Department of Agriculture he wrote a bulletin on "The Egg Trade of the United States," and invented the cold storage evaporimeter for which the United States holds the patent. He is also the author of a book on "The Dollar Hen."—*Kansas Farmer*.

Changes of address: C. L. Marlatt, '84, 1521 Sixteenth street, N. W., Washington, D. C.; Helen (Dow) Peck, '91, Roslyn, Long Island, N. Y.; Lieut. W. A. Cavanaugh, '96, Ft. Douglas, Utah; A. C. Peck, '96, 229½ N. Grand Avenue, Los Angeles, Cal.; I. A. Robertson, '96, Manhattan, Kan.; V. Maelzer, '97, Goldburg, Idaho; W. O. Peterson, '97, 350 Troup Avenue, Kansas City, Mo.; L. P. Keeler, '99, 1175 18th street, Portland, Ore.; Amelia (Maelzer) Gilson, '02, Roseville, Cal.; H. V. and Augusta (Griffing) Harlan, '04, University Farm, St. Paul, Minn.; L. V. Sanford, '04, R. F. D. No. 5, Sabetha, Kan.; Emily (Wiest) Joss, '04, 1551 N. Market street, Wichita, Kan.; Fred Van Dorp, '05, 507 Jackson street, Topeka, Kan.; W. S. Wright, '06, Harvey, Wash.; L. W. Lawson, '07, McPherson, Kan.; W. G. Shelley, '07, Akron Substation, Akron, Colo.

Board of Instruction (concluded from second page).

INSTRUCTORS (Concluded).

William L. House.....	Instructor in Woodwork, Foreman of Carpenter Shop
Louis Wabnitz.....	Instructor in Machine Tool Work, Foreman of Machine Shop
Ambrose E. Ridenour, B. S. (K. S. A. C.).....	Instructor in Moulding, Foreman of Foundry
J. H. Hollar.....	Instructor in Forging, Foreman of Blacksmith Shop

ASSISTANTS.

Miss Ina E. Holroyd, B. S. (K. S. A. C.), (K. S. N.).....	Assistant in Mathematics
Miss Kate Tinkey.....	Assistant Librarian
Earl N. Rodell, B.S. (K. S. A. C.).....	Assistant in Printing
Chas. Yost.....	Assistant in Heat and Power Department
Earle B. Milliard.....	Assistant in Machine Shops
J. T. Parker.....	Assistant in Woodwork
E. G. Meinzer, M. A. (Olivet College).....	Assistant in German
Hugh Oliver.....	Assistant in Heat and Power Department
Miss Charlaïne Furley, B. A. (Fairmount College).....	Assistant in English
Miss Jessie Reynolds, A. B. (University of Kansas).....	Assistant in History
William C. Lane, B. S. (K. S. A. C.).....	Assistant in Electrical Engineering
Miss Flora C. Knight, A. B. (University of Wyoming).....	Assistant in English
Miss Grace H. Woodward (Boston School of Domestic Science)....	Asst. in Domestic Science
Miss Margaret A. Mack (Kansas State Normal School).....	Assistant in History
S. W. McGarrah, M. A. (Grove City College).....	Assistant in Mathematics
C. A. Arthur Utt, M. S. (Cornell College).....	Assistant in Chemistry
Miss Florence Warner, A. B. (University of Illinois).....	Assistant Librarian
Miss Anna Gordon, A. B. (Iowa College).....	Assistant in History
Miss Bertha M. Johnston (Simmons College).....	Assistant in Domestic Science
Harrison E. Porter, B. S. (K. S. A. C.).....	Assistant in Mathematics
J. B. Parker, M. A. (Ohio State University).....	Assistant in Entomology
Allen G. Philips, B. S. (K. S. A. C.).....	Assistant in Poultry
Miss Gertrude Cannon (Bethany College) (Oberlin Conservatory).....	Assistant in Music
Miss Bertha Bisby.....	Assistant in Mathematics
Fred M. Hayes, D. V. M. (K. S. A. C.).....	Assistant in Veterinary Science
Miss Bertha Donaldson (University of Chicago).....	Assistant in Domestic Art
Miss Elizabeth Putnam (Chicago Art Institute).....	Assistant in Drawing
L. E. Petty, A. B. (Wabash College).....	Assistant in Mathematics
Jules C. Cunningham, B. S. (K. S. A. C.).....	Assistant in Horticulture
Miss Annie E. Lindsey (Simmons College).....	Assistant in Domestic Science
Miss Amy Allen, B. S. (K. S. A. C.).....	Assistant in Printing
John E. Smith, B. S. (Oregon Agricultural College).....	Assistant in Botany
R. C. Wiley, B. S. (Oklahoma A. & M. College).....	Assistant in Chemistry
Porter J. Newman, B. S. (Franklin College).....	Assistant in Chemistry
C. E. Griffin, M. S. (University of Michigan).....	Assistant in Chemistry
C. W. Nash, B. S. (Iowa State College).....	Assistant in Crops
Chas. Doryland, B. S. (K. S. A. C.).....	Assistant in Soils
R. C. Thompson, B. S. (K. S. A. C.).....	Assistant in Chemistry
R. H. Wilson, D. V. M. (K. S. A. C.).....	Assistant in Bacteriology
Miss Helen Huse, B. S. (K. S. A. C.).....	Assistant in Domestic Science
E. F. Kubin, D. V. M. (K. S. A. C.).....	Assistant in Veterinary Science
B. S. Orr, B. S. (K. S. A. C.).....	Assistant in Mechanical Engineering
Elmer Johnson, B. S. (K. S. A. C.).....	Assistant in Mechanical Engineering
A. B. Nystrom, B. S. (K. S. A. C.).....	Assistant in Dairy Husbandry
A. Miyawaki, M. S. (K. S. A. C.).....	Assistant in Experimental Dairying
Geo. C. Wheeler, B. S. (K. S. A. C.).....	Farm Management, Farmers' Institute Department
C. V. Holsinger, B. S. (K. S. A. C.).....	Horticulture, Farmers' Institute Department
P. E. Crabtree.....	Farm Management, Farmers' Institute Department
Miss Frances L. Brown, B. S. (K. S. A. C.).....	Domestic Science, Farmers' Institute Department
C. H. Hinman, A. B. (University of Nebraska).....	Dairying, Farmers' Institute Department
W. S. Gearhart, B. S. in C. E. (University of Missouri).....	Highway Engr., Farmers' Inst. Dept.
Miss Ethel Byerly, (Drexel Institute).....	Assistant in Domestic Art
T. G. Patterson, B. S. (University of Minnesota).....	Assistant in Animal Husbandry
Mrs. Jessie Gulick.....	Assistant in Library
Miss Mary Mudge, B. S. (K. S. A. C.).....	Assistant in Library
Miss Estella M. Boot, M. A. (Northwestern University).....	Assistant in English
J. R. Jenness, B. S. (Denison College).....	Assistant in Physics
Harry Evans, B. S. (Ohio State University).....	Assistant in Entomology
Miss Ada Baum (Chicago Musical College).....	Assistant in Music
Miss Ethel K. M. Ping (Sherwood Music School).....	Assistant in Music
E. P. Johnston, A. B. (Oberlin College) (Emerson Coll. of Oratory)...	Asst. in Public Speaking
Dean H. Rose, M. A. (Washington University, St. Louis).....	Assistant in Botany
Miss Anna Monroe, B. S. (K. S. A. C.).....	Assistant in Botany
Miss Madge Kay, B. S. (University of Chicago).....	Assistant in Mathematics
C. A. Jackson, B. S. (Purdue University).....	Assistant in Mathematics
D. O. Stone, C. E. (Cornell University).....	Assistant in Civil Engineering
Paul W. Graff, B. S. (Connecticut Agricultural College).....	Assistant in Botany
T. R. H. Wright, B. S. A. (University of Missouri).....	Assistant in Animal Husbandry
L. A. Chase.....	Assistant in History
Henry Wagner.....	Assistant in Heat and Power
A. E. White, M. S. (Purdue University).....	Assistant in Mathematics
H. W. Edson, A. M. (Harvard University).....	Assistant in English
M. R. Bowerman, B. S. (Michigan Agricultural College).....	Assistant in Mechanical Engineering
Frank C. Harris, B. S. (K. S. A. C.).....	Assistant in Architecture and Drawing
Geo. A. Westphalinger.....	Band Leader
Wm. A. Lamb.....	Superintendent of Poultry Plant
Floyd Howard.....	Farm Foreman

THE INDUSTRIALIST

Vol. 36

Saturday, April 23, 1910

No. 24

Issued Weekly By
Kansas State Agricultural College
Manhattan, Kansas



Revised Courses of Study

Agronomy
Animal Husbandry
Dairy Husbandry
Horticulture
Mechanical Engineering
Electrical Engineering
Civil Engineering
Architecture

Veterinary Science, Printing, Home Economics and General Science
to follow in next issue.

Published by
PRINTING DEPARTMENT
J. D. Rickman, Supt.

Entered at post-office, Manhattan, Kan., as second-class matter. Act of July 16, 1894.

THE INDUSTRIALIST.

PRES. H. J. WATERS.....	Editor-in-Chief
DR. J. D. WALTERS.....	Local Editor
DR. J. T. WILLARD.....	Alumni Editor

BOARD OF REGENTS.

HON. W. E. BLACKBURN, President.....	Anthony
HON. J. O. TULLOSS ['99], Vice-President.....	Sedan
HON. EDWIN TAYLOR.....	Edwardsville
HON. ARTHUR CAPPER.....	Topeka
HON. A. L. SPONSLER.....	Hutchinson
HON. TOM BLODGETT.....	Wichita
PRES. H. J. WATERS, Secretary <i>ex-officio</i>	Manhattan

BOARD OF INSTRUCTION

FACULTY.

HENRY J. WATERS, B. S. A. (University of Missouri).....	President
ED. H. WEBSTER, B. S. A. (Ia. S. C.), M. S. (K. S. A. C.).....	Director Exp. Sta., Dean of Agriculture
JOHN D. WALTERS, D. A. (K. S. A. C.).....	Professor of Architecture and Drawing
JULIUS T. WILLARD, D. Sc. (K. S. A. C.), Prof. of Chem. V.....	Director Exp. Sta., Dean of Science
BENJ. L. REMICK, Ph. M. (Cornell College).....	Professor of Mathematics
BENJ. F. EYER, E. E. (Armour Institute of Technology).....	Prof. of Electrical Engineering
HERBERT F. ROBERTS, M. S. (K. S. A. C.).....	Professor of Botany
WILLIAM A. MOKEEVER, Ph. M. (University of Chicago).....	Professor of Philosophy
EDMUND B. MCCORMICK, S. B. (Mass. Inst. of Tech.).....	Prof. of Mech. Eng., Dean of Mech. Arts
ALBERT DICKENS, M. S. (K. S. A. C.).....	Professor of Horticulture, Supt. of Grounds
CLARK M. BRINK, Ph. D. (U. of City of N. Y.).....	Prof. of English, Dean of the Coll., Asst. to Pres.
ALBERT M. TEN EYCK, B. Agr. (University of Wisconsin).....	Prof. of Agronomy, Supt. of Farm
RALPH R. PRICE, M. A. (University of Kansas).....	Professor of History and Civics
JULIUS E. KAMMEYER, M. A. (Central Wesleyan College).....	Professor of Economics
JOHN V. CORTELYOU, Ph. D. (Heidelberg).....	Professor of German
OLOF VALLEY, B. M. (Chicago Conservatory).....	Professor of Music
F. S. SCHOENLEBER, D. V. S. (Chicago Vet. College).....	Professor of Veterinary Science
ROLAND J. KINZER, B. S. A. (Iowa State College).....	Professor of Animal Husbandry
WALTER E. KING, M. S. (Cornell University).....	Professor of Bacteriology
THOMAS J. HEADLEE, Ph. D. (Cornell University).....	Professor of Entomology
CHAS. H. BOICE, First Lieutenant Seventh Cavalry, U. S. A.....	Professor of Military Science
JOHN C. KENDALL, B. S. (New Hampshire A. & M. College).....	Professor of Dairy Husbandry
JOHN O. HAMILTON, B. S. (University of Chicago).....	Professor of Physics
MRS. MARY P. VANZILE, (Iowa State College).....	Prof. of Domestic Science, Dean of Women
JOSHUA D. RICKMAN.....	Superintendent of Printing
MISS MARGUERITE E. BARBOUR (Sargent Nor. Sch. Phys. Tr.).....	Director of Physical Training
MISS ANTONETTA BECKER (Drexel Institute).....	Professor of Domestic Art
MISS GERTRUDE BARNES.....	Librarian
LOWELL E. CONRAD, M. S. (Lehigh University).....	Professor of Civil Engineering
JOHN H. MILLER, M. A.....	Superintendent Farmers' Institutes
MISS MARGARET BUTTERFIELD.....	Secretary
WILLIAM R. LEWIS.....	Custodian

ASSISTANT PROFESSORS.

JACOB LUND, M. S. (K. S. A. C.).....	Superintendent Heat and Power Department
ANDREY A. POTTER, S. B. (Mass. Inst. of Tech.).....	Asst. Professor of Mechanical Engineering
ROBERT H. BROWN, B. M. (Kan. Con. of Music), B. S. (K. S. A. C.).....	Asst. Professor of Music
GEO. A. DEAN, M. S. (K. S. A. C.).....	Assistant Professor of Entomology
WILLIAM H. ANDREWS, A. B. (University of Chicago).....	Assistant Professor of Mathematics
ROBERT E. EASTMAN, M. S. (Cornell University).....	Assistant Professor of Forestry
LELAND E. CALL, B. S. (Ohio State University).....	Assistant Professor of Soils
ROY A. SEATON, B. S. (K. S. A. C.).....	Assistant Professor of Mechanical Engineering
LEONARD W. GOSS, D. V. M. (Ohio State University).....	Asst. Professor of Veterinary Science
GEO. E. BRAY, M. E. (University of Minnesota).....	Asst. Prof. Mech. Engineering, Supt. of Shops
MISS ULA M. DOW, B. S. (K. S. A. C.).....	Assistant Professor of Domestic Science
H. H. KING, M. A. (Ewing College).....	Assistant Professor of Chemistry
JOHN B. WHELAN, M. A. (University of Nebraska).....	Assistant Professor of Chemistry
C. O. SWANSON, M. Agr. (University of Minnesota).....	Asst. Prof. of Agricultural Chemistry
ROBT. J. BARNETT, B. S. (K. S. A. C.).....	Assistant Professor of Mathematics
LOUIS H. BEALL, A. B. (Denison College).....	Assistant Professor of English
WILMER E. DAVIS, M. S. (University of Illinois).....	Assistant Professor of Botany
F. G. KING, B. S. A. (University of Missouri).....	Assistant Professor of Animal Husbandry
K. W. STODDER, D. V. M. (Iowa State College).....	Assistant Professor of Veterinary Science

INSTRUCTORS.

Miss Ada Rice, B. S. (K. S. A. C.).....	Instructor in English
Miss Ella Weeks, A. B. (University of Kansas).....	Instructor in Drawing
Miss Daisy Zeininger, B. A. (Fairmount College).....	Instructor in Mathematics
Theo. H. Scheffer, M. A. (Cornell University).....	Instructor in Zoölogy
L. D. Bushnell, B. S. (University of Michigan).....	Instructor in Bacteriology
M. Francis Ahearn, B. S. (Massachusetts Agricultural College).....	Instructor in Horticulture
Burton Rogers, D. V. M. (Iowa State College).....	Instructor in Veterinary Science
Kirk H. Logan, B. S. (University of Kansas).....	Instructor in Physics
Miss Clara Willis (Framingham Normal Institute).....	Instructor in Domestic Science
Miss Ina Cowles, B. S. (K. S. A. C.).....	Instructor in Domestic Art
Miss Gertrude Stump, B. S. (K. S. A. C.).....	Instructor in Domestic Art
Miss Annette Leonard, A. B. (University of Kansas).....	Instructor in English

(Board of Instruction concluded on last page.)

THE INDUSTRIALIST

VOL. 36.

MANHATTAN, KAN., APRIL 23, 1910.

No. 24

Revised Courses of Study.

The interest in the recent revision of the courses of study is such as to make it desirable to put them in print at an early date for the information of present and prospective students. They will therefore be printed in full in the INDUSTRIALIST, and the first instalment appears this week. This includes the courses in the agricultural group, excepting veterinary medicine, and those of the mechanic arts group, excepting the printing course. These courses are based upon two years of sub-freshman work, and this sub-freshman course is also presented here. The present sub-freshman course does not include all of the work assumed as a basis for the revised course, but students who this year complete it will be classified as freshmen next year, and for them a special modification of the new course will be made up, based upon the present entrance requirements but approximating the revised course as nearly as possible under the circumstances. Similar adaptations will also be worked out for the present freshman, sophomore and junior classes. The adaptation courses for the freshman class of 1910-'11 being of especial interest and importance will be printed in the INDUSTRIALIST with the revised courses. Those for the groups in agriculture and the mechanic arts are given in this number.

In addition to the subjects printed in the courses, young men of the freshman and sophomore years are required to take military drill four hours weekly, and young women of the same years take physical training, but for them physical training may be replaced by music in the sophomore year. All young women entering below the junior year must take at least one year of physical training unless given credit therefor on account of similar work elsewhere.

THE SUB-FRESHMAN COURSE.

Industrial work has been introduced into the sub-freshman course. Heretofore the student coming from the country district school was required to spend an entire year in the College before securing industrial work of any nature whatever. Henceforth male students will be required to take stock judging, grain judging, butter making, plant production, poultry work, wood-

work, blacksmithing, drawing, etc., and the young women will be required to take sewing, cooking, drawing and designing.

In the past something like two-thirds of the students who have entered the sub-freshman year have not returned to take further work. With the new courses these students who drop out at the end of the first or second sub-freshman year will have had some industrial training which will be of practical use to them in after life.

It is hoped, moreover, that the introduction of this practical work into these years will serve to quicken the interest of the student and keep up his enthusiasm, and that there will not be so large a falling off of students in the earlier years of the course.

The road into the College has been broadened. High-school work of accredited character may be used for admission. The fixed requirements will be two years in English and two in mathematics. Latin, history, economics, modern languages, physical or biological sciences, or industrial work done in an accredited high school will be accepted for entrance to the freshman year of the new courses. Eight units or two years of high-school work will be required for admission.

The freshman and sophomore years of the College courses are arranged so that the graduate of an accredited high school may receive credit for the academic work done in the high school in advance of our entrance requirements. While the requirements for graduation have been increased a full year, the College has been brought nearer to the people, through the introduction of industrial subjects in the sub-freshman courses and by the improvement contemplated in the character of the instruction to be offered in these years.

Adaptation Courses.

The Arabic numeral immediately following the name of a subject indicates the credit units, and those in parenthesis the hours per week of recitation and laboratory, respectively.

FRESHMAN 1910-'11.

All Agriculture Courses.

FALL TERM.	WINTER TERM.	SPRING TERM.
Methods of Study 1 (1-0)	Classics 4 (4-0)	Advanced Composition 4 (4-0)
Chemistry I 4 (3-2)	Chemistry II 4 (2-4)	Chemistry III 4 (3-2)
Geometry I 4 (4-0)	Geometry II 4 (4-0)	Trigonometry & Surveying 3 (2-2)
Physics I 4 (3-2)	Woodwork I 2 (0-4)	Physics II 4 (3-2)
Freehand Drawing 2 (0-4)	Geometrical Drawing 1 (0-2)	Object Drawing 2 (0-4)
Live Stock I & II 3 (1-4)	Farm Crops I & II 3 (1-4)	

All Mechanic Arts Courses Except Printing.

Classics 4 (4-0)	Advanced Composition 4 (4-0)	Rhetoric 4 (4-0)
Chemistry I 4 (3-2)	Chemistry II 4 (2-4)	Chemistry III 4 (3-2)
Geometry I 4 (4-0)	Geometry II 4 (4-0)	Trigonometry 4 (4-0)
Woodwork I 2 (0-4)	Woodwork II 2 (0-4)	Blacksmithing I 2 (0-4)
Freehand Drawing 1 (0-2)	Object Drawing 2 (0-4)	Surveying I 2 (0-4)
Geometrical Drawing 2 (0-4)	Descriptive Geometry I 2 (0-4)	Descriptive Geometry II 2 (0-4)
Methods of Study 1 (1-0)		

Sub-Freshman Course.

The Arabic numeral immediately following the name of a subject indicates the credit units, and those in parenthesis the hours per week of recitation and laboratory, respectively.

FIRST YEAR.

FALL TERM.	WINTER TERM.	SPRING TERM.
Advanced Grammar 4 (4-0)	English Readings 4 (4-0)	Elementary Composition 4 (4-0)
Algebra I 4 (4-0)	Algebra II 4 (4-0)	Algebra III 4 (4-0)
Ancient History 3 (3-0)	Medieval History 3 (3-0)	Modern History I 3 (3-0)
Elementary Botany I 3 (2-2)	Elementary Botany II 3 (2-2)	Elementary Botany III 3 (2-2)
Sewing I* 4 (1-6)	Sewing II* 4 (1-6)	Sewing III* 4 (1-6)
Woodwork I† 2 (0-4)	Woodwork II† 2 (0-4)	Blacksmithing I† 2 (0-4)
Stock Judging I† 2 (0-4)	Grain Judging I† 2 (0-4)	Stock Judging II† 2 (0-4)

SECOND YEAR.

English Classics 4 (4-0)	Paragraph Writing 4 (4-0)	Elementary Rhetoric 4 (4-0)
Plane Geometry I 4 (4-0)	Plane Geometry II 4 (4-0)	Solid Geometry 4 (4-0)
Modern History II 3 (3-0)	The American Nation 3 (3-0)	Bookkeeping† 3 (3-0)
Physics I 3 (3-0)	Physics II 3 (2-2)	Physics III 3 (2-2)
Freehand Drawing 2 (0-4)	Geometrical Drawing 1 (0-2)	Object Drawing I 2 (0-4)
Cookery I* 2 (0-4)	Cookery II* 3 (0-6)	Cookery III* 4 (2-4)
Fruit Judging† 2 (0-4)	Blacksmithing II† 2 (0-4)	Grain Judging II† 2 (0-4)
	Poultry Judging† 1 (0-2)	

*For young women.

†For young men.

Agronomy Course.

The Arabic numeral immediately following the name of a subject indicates the credit units, and those in parenthesis the hours per week of recitation and laboratory, respectively.

FRESHMAN.**FALL TERM.**

Algebra IV
4 (4-0)
Chemistry I
4 (3-2)
Zoölogy I
4 (2-4)
Methods of Study
1 (1-0)
Farm Crops I
2 (1-2)
Live Stock I
3 (1-4)

WINTER TERM.

Narrative Writing
4 (4-0)
Chemistry II
4 (2-4)
Zoölogy II
4 (2-4)
Poultry
2 (2-0)
Farm Crops II
4 (2-4)

SPRING TERM.

Theme Writing
4 (4-0)
Chemistry III
4 (3-2)
Zoölogy III
4 (2-4)
Blacksmithing III Ag.
3 (0-6)
Live Stock II
3 (1-4)

SOPHOMORE.

History of English Literature
4 (4-0)
Qualitative Analysis
4 (2-4)
Plant Anatomy
4 (2-4)
Dairying
4 (2-4)
Live Stock III (Dairy)
2 (0-4)

College Rhetoric
4 (4-0)
El. Organic Chemistry
4 (4-0)
Plant Physiology I
4 (2-4)
Public Speaking
4 (4-0)
Farm Mechanics I
2 (1-2)

English Literature
4 (4-0)
Agricultural Chemistry
4 (2-4)
Plant Physiology II
2 (0-0)
Plant Propagation
5 (3-4)
Live Stock IV
3 (1-4)

JUNIOR.

General Bacteriology
4 (2-4)
Farm Mechanics II
4 (2-4)
Plant Pathology
4 (2-4)
Farm Crops III
4 (2-4)
Elective
2 (-)

Geology I
4 (4-0)
Soils I
4 (2½-3)
Forestry I
4 (3-2)
Civics
4 (4-0)
Elective
2 (-)

Physics VI
4 (4-0)
Soils II
4 (2½-3)
Irrigation and Drainage
4 (2-4)
Farm Mechanics III
4 (2-4)
Elective
2 (-)

SENIOR.

Entomology I
4 (3-2)
Principles of Feeding
4 (4-0)
Farm Crops IV
4 (1-6)
Soils III
4 (1-6)
Elective
2 (-)

Agricultural Economics
4 (4-0)
Farm Management
4 (3-2)
Farm Crops V
4 (1-6), or
Soils IV
4 (1-6)
Agronomy Seminar
2 (0-4)
Elective
4 (-)

American History
4 (4-0)
Principles of Breeding
4 (4-0)
Farm Crops VI
4 (0-8), or
Soils V
4 (2-4)
Elective
6 (-)

Animal Husbandry Course.

The Arabic numeral immediately following the name of a subject indicates the credit units, and those in parenthesis the hours per week of recitation and laboratory, respectively.

FRESHMAN.

FALL TERM.	WINTER TERM.	SPRING TERM.
Algebra IV 4 (4-0)	Narrative Writing 4 (4-0)	Theme Writing 4 (4-0)
Chemistry I 4 (3-2)	Chemistry II 4 (2-4)	Chemistry III 4 (3-2)
Zoölogy I 4 (2-4)	Zoölogy II 4 (2-4)	Zoölogy III 4 (2-4)
Methods of Study 1 (1-0)	Poultry 2 (2-0)	Blacksmithing III Ag. 3 (0-6)
Farm Crops I 2 (1-2)	Farm Crops II 4 (2-4)	Live Stock II 3 (1-4)
Live Stock I 3 (1-4)		

SOPHOMORE.

History of English Literature 4 (4-0)	College Rhetoric 4 (4-0)	English Literature 4 (4-0)
Qualitative Analysis 4 (2-4)	El. Organic Chemistry 4 (4-0)	Agricultural Chemistry 4 (2-4)
Plant Anatomy 4 (2-4)	Plant Physiology I 4 (2-4)	Plant Physiology II 2 (0-4)
Dairying 4 (2-4)	Public Speaking 4 (4-0)	Plant Propagation 5 (3-4)
Live Stock III (Dairy) 2 (0-4)	Farm Mechanics I 2 (1-2)	Live Stock IV 3 (1-4)

JUNIOR.

General Bacteriology 4 (2-4)	Geology I 4 (4-0)	Physics VI 4 (4-0)
Farm Mechanics II 4 (2-4)	Soils I 4 (2½-3)	Soils II 4 (2½-3)
Farm Crops III 4 (2-4)	Forestry I 4 (3-2)	Civics 4 (4-0)
General Anatomy I 4 (1-6)	General Anatomy II 4 (2-4)	Animal Physiology 4 (2-4)
Pedigrees 2 (0-4)	History of Breeds 2 (2-0)	Advanced Judging I 2 (0-4)

SENIOR.

Entomology I 4 (3-2)	Agricultural Economics 4 (4-0)	Diseases Farm Animals and Obstetrics, 4 (4-0)
Principles of Feeding 4 (4-0)	Farm Management 4 (3-2)	Principles of Breeding 4 (4-0)
Advanced Judging II 2 (0-4)	Evolution of Dom. Animals 1 (1-0)	Horse Production 2 (2-0)
Zoölogy IX (Embryology) 4 (3-2)	Mutton & Pork Production 3 (3-0)	Beef Production 2 (2-0)
American History 4 (4-0)	Meats 2 (1-2)	Live Stock Management 2 (2-0)
	Elective 4 (-)	Elective 4 (-)

Dairy Husbandry Course.

The Arabic numeral immediately following the name of a subject indicates the credit units, and those in parenthesis the hours per week of recitation and laboratory, respectively.

FRESHMAN.

FALL TERM.	WINTER TERM.	SPRING TERM.
Algebra IV 4 (4-0)	Narrative Writing 4 (4-0)	Theme Writing 4 (4-0)
Chemistry I 4 (3-2)	Chemistry II 4 (2-4)	Chemistry III 4 (3-2)
Zoölogy I 4 (2-4)	Zoölogy II 4 (2-4)	Zoölogy III 4 (2-4)
Methods of Study 1 (1-0)	Poultry 2 (2-0)	Blacksmithing III Ag. 3 (0-6)
Farm Crops I 2 (1-2)	Farm Crops II 4 (2-4)	Live Stock II 3 (1-4)
Live Stock I 3 (1-4)		

SOPHOMORE.

History of English Literature 4 (4-0)	College Rhetoric 4 (4-0)	English Literature 4 (4-0)
Qualitative Analysis 4 (2-4)	El. Organic Chemistry 4 (4-0)	Agricultural Chemistry 4 (2-4)
Plant Anatomy 4 (2-4)	Plant Physiology I 4 (2-4)	Plant Physiology II 2 (0-4)
Dairying 4 (2-4)	Public Speaking 4 (4-0)	Plant Propagation 5 (3-4)
Live Stock III (Dairy) 2 (0-4)	Farm Mechanics I 2 (1-2)	Live Stock IV 3 (1-4)

JUNIOR.

General Bacteriology 4 (2-4)	Geology I 4 (4-0)	Physics VI 4 (4-0)
Farm Mechanics II 4 (2-4)	Soils I 4 (2½-3)	Soils II 4 (2½-3)
Farm Crops III 4 (2-4)	Forestry I 4 (3-2)	Civics 4 (4-0)
General Anatomy I 4 (1-6)	Dairy Bacteriology 4 (2-4)	Animal Physiology 4 (2-4)
Chemistry D, I 2 (0-4)	Chemistry D, II 2 (0-4)	Dairy Inspection 2 (0-4)

SENIOR.

Entomology I 4 (3-2)	Agricultural Economics 4 (4-0)	Diseases of Farm Ani. and Obstetrics 4 (4-0)
Principles of Feeding 4 (4-0)	Farm Management 4 (3-2)	Principles of Breeding 4 (4-0)
Dairy Buildings & Equipment 2 (0-4)	Butter Mkg. & Cream. Mgt. 3 (1-4)	Pure Bred Dairy Herd 2 (1-2)
Zoölogy IX (Embryology) 4 (3-2)	Milk Production & Herd Mgt. 3 (2-2)	Cheese & Ice-Cream Making 4 (2-4)
American History 4 (4-0)	Elective 4 (-)	Elective 4 (-)

Horticulture Course.

The Arabic numeral immediately following the name of a subject indicates the credit units, and those in parenthesis the hours per week of recitation and laboratory, respectively.

FRESHMAN.

FALL TERM.	WINTER TERM.	SPRING TERM.
Algebra IV 4 (4-0)	Narrative Writing 4 (4-0)	Theme Writing 4 (4-0)
Chemistry I 4 (3-2)	Chemistry II 4 (2-4)	Chemistry III 4 (3-2)
Zoölogy I 4 (2-4)	Zoölogy II 4 (2-4)	Zoölogy III 4 (2-4)
Methods of Study 1 (1-0)	Poultry 2 (2-0)	Blacksmithing III Ag. 3 (0-6)
Farm Crops I 2 (1-2)	Farm Crops II 4 (2-4)	Live Stock II 3 (1-4)
Live Stock I 3 (1-4)		

SOPHOMORE.

History of English Literature 4 (4-0)	College Rhetoric 4 (4-0)	English Literature 4 (4-0)
Qualitative Analysis 4 (2-4)	El. Organic Chemistry 4 (4-0)	Agricultural Chemistry 4 (2-4)
Plant Anatomy 4 (2-4)	Plant Physiology I 4 (2-4)	Plant Physiology II 2 (0-4)
Dairying 4 (2-4)	Public Speaking 4 (4-0)	Plant Propagation 5 (3-4)
Live Stock III (Dairy) 2 (0-4)	Farm Mechanics I 2 (1-2)	Live Stock IV 3 (1-4)

JUNIOR.

General Bacteriology 4 (2-4)	Geology I 4 (4-0)	Physics VI 4 (4-0)
Farm Mechanics II 4 (2-4)	Soils I 4 (2½-3)	Soils II 4 (2½-3)
Farm Crops III 4 (2-4)	Forestry I 4 (3-2)	Irrigation and Drainage 4 (2-4)
Pomology I 2 (0-4)	Civics 4 (4-0)	Small Fruits 2 (2-0)
Plant Pathology 4 (2-4)	Elective 2 (-)	Elective 2 (-)
		Forestry II 2 (2-0)

SENIOR.

Entomology I 4 (3-2)	Agricultural Economics 4 (4-0)	American History 4 (4-0)
Principles of Feeding 4 (4-0)	Farm Management 4 (3-2)	Principles of Breeding 4 (4-0)
Soils III 4 (1-6)	Entomology V (Economic) 2 (2-0)	Market Gardening 3 (2-2)
Pomology II 4 (3-2)	Spraying 1 (0-2)	Landscape Gardening 3 (2-2)
Elective 2 (-)	Orcharding 3 (3-0)	Elective 4 (-)
	Elective 4 (-)	

Mechanical Engineering Course.

The Arabic numeral immediately following the name of a subject indicates the credit units, and those in parenthesis the hours per week of recitation and laboratory, respectively.

FRESHMAN.**FALL TERM.**

Narrative Writing
4 (4-0)
Chemistry I
4 (3-2)
Algebra IV
4 (4-0)
Woodwork I
2 (0-4)
Freehand Drawing
1 (0-2)
Geometrical Drawing
2 (0-4)
Methods of Study
1 (1-0)

WINTER TERM.

Theme Writing
4 (4-0)
Chemistry II
4 (2-4)
Trigonometry
4 (4-0)
Woodwork II
2 (0-4)
Object Drawing
2 (0-4)
Descriptive Geometry I
2 (0-4)

SPRING TERM.

History of English Literature
4 (4-0)
Chemistry III
4 (3-2)
College Algebra
4 (4-0)
Blacksmithing I
2 (0-4)
Surveying I
2 (0-4)
Descriptive Geometry II
2 (0-4)

SOPHOMORE.

Analytical Geometry
4 (4-0)
Constitutional History
4 (4-0)
Physics IX
5 (3-4)
Mechanical Drawing I
3 (1-4)
Blacksmithing II
3 (1-4)

Differential Calculus
4 (4-0)
Kinematics I
4 (4-0)
Physics X
5 (3-4)
Mechanical Drawing II
2 (0-4)
Foundry
3 (1-4)

Integral Calculus
4 (4-0)
Public Speaking
2 (2-0)
Physics XI
5 (3-4)
Mechanical Drawing III
2 (0-4)
Wood Turning & Pattern Making.
3 (1-4)
Industrial History
2 (2-0)

JUNIOR.

College Rhetoric
4 (4-0)
Economics
4 (4-0)
Applied Mechanics I
5 (4-2)
Steam Engineering I
(Valve Gears)
2 (2-0)
Kinematics II
3 (2-2)

Business Organization
2 (2-0)
Business Law
2 (2-0)
Applied Mechanics II
5 (4-2)
Steam Engineering II
(Thermodynamics)
4 (3-2)
Machine Design I
3 (1-4)
Machine Shop I
2 (0-4)

Graphic Statics
2 (0-4)
Hydraulics
3 (3-0)
Applied Mechanics III
4 (3-2)
Steam Engineering III
(Thermodynamics)
4 (3-2)
Machine Design II
3 (1-4)
Machine Shop II
2 (0-4)

SENIOR.

Applied Mechanics IV
4 (3-2)
Steam Engineering IV
4 (3-2)
Electrical Engineering M-I
4 (3-2)
Machine Shop III
3 (1-4)
Hydraulic Motors
3 (2-2)

Gas Engineering
3 (2-2)
Mill Engineering
5 (2-6)
Electrical Engineering M-II
4 (3-2)
Machine Shop IV
3 (1-4)
Thesis
3

Heating and Ventilation
5 (3-4)
Power Plant Engineering
5 (2-6)
Refrigeration
2 (2-0)
Machine Shop V
2 (0-4)
Thesis
4

Electrical Engineering Course.

The Arabic numeral immediately following the name of a subject indicates the credit units, and those in parenthesis the hours per week of recitation and laboratory, respectively.

FRESHMAN.**FALL TERM.**

Narrative Writing
4 (4-0)
Chemistry I
4 (3-2)
Algebra IV
4 (4-0)
Woodwork I
2 (0-4)
Freehand Drawing
1 (0-2)
Geometrical Drawing
2 (0-4)
Methods of Study
1 (1-0)

WINTER TERM.

Theme Writing
4 (4-0)
Chemistry II
4 (2-4)
Trigonometry
4 (4-0)
Woodwork II
2 (0-4)
Object Drawing
2 (0-4)
Descriptive Geometry I
2 (0-4)

SPRING TERM.

History of English Literature
4 (4-0)
Chemistry III
4 (3-2)
College Algebra
4 (4-0)
Blacksmithing I
2 (0-4)
Surveying I
2 (0-4)
Descriptive Geometry II
2 (0-4)

SOPHOMORE.

Analytical Geometry
4 (4-0)
Constitutional History
4 (4-0)
Physics IX
5 (3-4)
Mechanical Drawing I
3 (1-4)
Blacksmithing II
2 (0-4)

Differential Calculus
4 (4-0)
Kinematics I
4 (4-0)
Physics X
5 (3-4)
Mechanical Drawing II
2 (0-4)
Foundry
3 (1-4)

Integral Calculus
4 (4-0)
Public Speaking
2 (2-0)
Physics XI
5 (3-4)
Mechanical Drawing III
2 (0-4)
Wood Turning & Pat'n Mkg.
3 (1-4)
Industrial History
2 (2-0)

JUNIOR.

College Rhetoric
4 (4-0)
Economics
4 (4-0)
Theory of Electricity I
3 (2-2)
Mechanical Drawing IV
2 (0-4)
Applied Mechanics I
5 (4-2)

Business Organization
2 (2-0)
Business Law
2 (2-0)
Theory of Elect. II, ½ term
7 (5-4)
Direct C. Machines I, ½ term
7 (5-4)
Applied Mechanics II
5 (4-2)
Machine Shop I
2 (0-4)

Electrical Instr. & Calibrat'n
3 (2-2)
Hydraulics
3 (3-0)
Chemistry EE
3 (0-6)
Direct Current Machines II
7 (5-4)
Machine Shop II
2 (0-4)

SENIOR.

Alternating C. Machines I
6 (4-4)
Steam and Gas Engrg. E-I
5 (4-2)
Direct Current Design
2 (1-2)
Machine Shop III
2 (0-4)
Hydraulic Measurements
2 (1-2)

Alternating C. Machines II
6 (4-4)
Steam and Gas Engrg. E-II
5 (3-4)
Illuminating Engrg. or Telephone or Railroad Practice. 5 (-)
Thesis
2 (-)

Alternating C. Mach. Design
2 (2-0)
Power Plant Specifications
3 (3-0)
Generation & Dist. of Electric Energy
5 (5-0)
Inspection Trips
Thesis
6 (-)

THE INDUSTRIALIST.

Civil Engineering Course.

The Arabic numeral immediately following the name of a subject indicates the credit units and those in parenthesis the hours per week of recitation and laboratory, respectively.

FRESHMAN.

FALL TERM.	WINTER TERM.	SPRING TERM.
Narrative Writing 4 (4-0)	Theme Writing 4 (4-0)	History of English Literature 4 (4-0)
Chemistry I 4 (3-2)	Chemistry II 4 (2-4)	Chemistry III 4 (3-2)
Algebra IV 4 (4-0)	Trigonometry 4 (4-0)	College Algebra 4 (4-0)
Woodwork I 2 (0-4)	Woodwork II 2 (0-4)	Blacksmithing I 2 (0-4)
Freehand Drawing 1 (0-2)	Object Drawing 2 (0-4)	Surveying I 2 (0-4)
Geometrical Drawing 2 (0-4)	Descriptive Geometry I 2 (0-4)	Descriptive Geometry II 2 (0-4)
Methods of Study 1 (1-0)		

SOPHOMORE.

Analytical Geometry 4 (4-0)	Differential Calculus 4 (4-0)	Integral Calculus 4 (4-0)
Constitutional History 4 (4-0)	Kinematics I 4 (4-0)	Public Speaking 2 (2-0)
Physics IX 5 (3-4)	Physics X 5 (3-4)	Physics XI 5 (3-4)
Surveying II 2 (1-2)	Surveying III 3 (1-4)	Surveying IV 3 (1-4)
Mechanical Drawing I 3 (1-4)	Mechanical Drawing II 2 (0-4)	Mechanical Drawing III 2 (0-4)
		Industrial History 2 (2-0)

JUNIOR.

College Rhetoric 4 (4-0)	Business Organization 2 (2-0)	Graphic Statics 2 (0-4)
Economics 4 (4-0)	Business Law 2 (2-0)	Hydraulics I 3 (3-0)
Applied Mechanics I 5 (4-2)	Applied Mechanics II 5 (4-2)	Applied Mechanics III 4 (3-2)
Sanitary Biology I 3 (1-4)	Sanitary Biology II 3 (1-4)	Geology II 6 (4-4)
Civil Engineering Drawing I 2 (0-4)	Chemistry CE I 3 (1-4)	Chemistry CE II 3 (0-6)
	Municipal Engineering 3 (3-0)	

SENIOR.

Bridge Stresses 4 (4-0)	Structural Design 6 (3-6)	Electrical Engineering C 4 (3-2)
Steam & Gas Engineering C 4 (3-2)	Railway Engineering I 3 (3-0)	Railway Engineering II 4 (0-8)
Drainage & Irrigation Engrg. 4 (4-0)	Masonry & Concrete 4 (3-2)	Geodesy 4 (2-4)
Civil Engrg. Drawing II 3 (0-6)	Spherical Trig. & Astronomy 3 (3-0)	Highway Engineering 2 (2-0)
Hydraulic Motors 3 (2-2)	Surveying V 2 (2-0)	Thesis 4 (-)

Architecture Course.

The Arabic numeral immediately following the name of a subject indicates the credit units, and those in parenthesis the hours per week of recitation and laboratory, respectively.

FRESHMAN.

FALL TERM.	WINTER TERM.	SPRING TERM.
Narrative Writing 4 (4-0)	Theme Writing 4 (4-0)	History of English Literature 4 (4-0)
Chemistry I 4 (3-2)	Chemistry II 4 (2-4)	Chemistry III 4 (3-2)
Algebra IV 4 (4-0)	Trigonometry 4 (4-0)	College Algebra 4 (4-0)
Woodwork I 2 (0-4)	Woodwork II 2 (0-4)	Blacksmithing I 2 (0-4)
Freehand Drawing 1 (0-2)	Object Drawing 2 (0-4)	Surveying I 2 (0-4)
Geometrical Drawing 2 (0-4)	Descriptive Geometry I 2 (0-4)	Descriptive Geometry II 2 (0-4)
Methods of Study 1 (1-0)		

SOPHOMORE.

Analytical Geometry 4 (4-0)	Differential Calculus 4 (4-0)	Integral Calculus 4 (4-0)
Constitutional History 4 (4-0)	Residences 4 (4-0)	Public Speaking 2 (2-0)
Physics IX 5 (3-4)	Physics X 5 (3-4)	Physics XI 5 (3-4)
Descriptive Geometry III 2 (0-4)	Shades & Shadows 2 (0-4)	Perspective I 2 (0-4)
Architectural Drawing I 3 (0-6)	Architectural Drawing II 3 (0-6)	Architectural Drawing III 3 (0-6)
		Industrial History 2 (2-0)

JUNIOR.

Perspective II 2 (0-4)	Business Organization 2 (2-0)	Graphic Statics 2 (0-4)
Economics 4 (4-0)	Business Law 2 (2-0)	Hydraulics 3 (3-0)
Applied Mechanics I 5 (4-2)	Applied Mechanics II 5 (4-2)	College Rhetoric 4 (4-0)
History of Architecture I 4 (4-0)	History of Architecture II 4 (4-0)	History of Architecture III 4 (4-0)
Architectural Drawing IV 3 (0-6)	Water Color 2 (0-4)	Cast & Life 2 (0-4)
	Architectural Composition I 3 (0-6)	Architectural Composition II 3 (0-6)

SENIOR.

Materials of Construction 5 (2-6)	Electrical Engineering A 4 (3-2)	Electric Wiring & Lighting 2 (2-0)
Heating & Plumbing 5 (5-0)	Trusses 5 (2-6)	Landscape Architecture 5 (2-6)
Mural Decorations 2 (0-4)	Specifications 4 (4-0)	Seminary 4 (4-0)
Architectural Composit'n III 3 (0-6)	Architectural Composit'n IV 5 (0-10)	Thesis ?
Municipal Improvement 3 (3-0)		

Local Notes.

Pres. H. J. Waters addressed the Y. M. C. A. Thursday evening at the Y. M. C. A. Hall.

Prof. B. F. Eyer has recently bought the Reverend Hannum cottage, north of the United Presbyterian church.

The College baseball team defeated Nebraska University on April 13 and 14 by scores of 7 to 2 and 11 to 3, respectively.

The Music Department will give a students' recital in the Auditorium on Wednesday evening, April 27. The public is invited.

Prof. J. C. Kendall, of the Department of Dairying, has an illustrated article on "Some Requisites for a Sanitary Barn," in the *Kansas Farmer*.

Assistant E. G. Meinzer, of the German Department, has an interesting article on "How to Keep the Boy on the Farm," in the *Kansas Farmer*.

Miss Sabra Kennedy, private secretary to the President, has returned to her work after several weeks serious illness and a short stay at Excelsior Springs.

Assistant Hinman, of the College Extension Department, was at Linwood this week to oversee the construction of a thin wall cement silo of the same type as those built last fall by the College.

Prof. A. Dickens smudged the College orchards dense and plenty during the cold nights of the week and the students are guessing whether the smudge pots or the prevailing wind should be given credit for the saving of the fruit.

Prof. William A. McKeever has an appointment to address the State Federation of Women's Clubs at Abilene April 27 and to deliver a lecture at the National Graduate School of Agriculture and Home Economics, which is held this year at Ames, Iowa, during July. He has also been invited to address the National Congress of Mothers, which meets at Denver June 10-15.

The College Dramatic Club presented their third annual play, "Half-Back Sandy," to a well-filled and appreciative house in the Auditorium Friday night of last week. The cast of characters was excellent and the rendering of the play spirited throughout. Prof. E. P. Johnston, of the Department of Public Speaking, acted as director and had charge of the rehearsals.

Prof. D. E. Lantz visited home for a couple of days and found his friends so numerous that the time was too short to even see them all, much less to visit with them. His duties in the biological division of the Department of Agriculture keep him in Washington, D. C., most of the time, but for the next few months he will be in field work studying methods of preventing or minimizing the injury to seedling trees due to the attacks of mice, squirrels, and other animals, on the government forest reserves in the West.

The north branch of the Manhattan street railway line is now in use. Regular trips are being made on schedule time from the College Book Store to the Rock Island and Union Pacific depots twice an hour. Cars leave the store over this branch 15 minutes before and 15 minutes after each hour.

The College is doing a great amount of demonstration spraying of orchards this spring, conducting demonstrations in the following counties: Doniphan, Sumner, Allen, Bourbon, Linn, and Anderson. This work is under the general direction of Professor Dickens, of the Department of Horticulture, assisted by Professor Headlee, the most of the work, however, being under the direction of Mr. Holsinger, of the Extension Department.

The new stallion law which went into effect on the first of March has produced a considerable increase of office work in the Department of Animal Husbandry. Letters containing applications for certificates have poured in every day for many weeks, and are still coming in from all parts of the State. There are about 4000 stallions in Kansas, and the department had to look up the pedigree of every one of them before its certificate could be made out, which was a big job. From the records of the College it seems that about 55 per cent of the animals are only grades, which shows that the law passed by the last legislature was badly needed.

Thursday evening of last week in the old chapel, representatives of Fairmount college, Wichita, and of the K. S. A. C. engaged in the first intercollegiate debate in which this College has taken part. The question debated was: *Resolved*, That the United States government should establish a permanent tariff commission. The affirmative was defended by the local team, consisting of P. C. Vilander, L. C. Christie, and Linnie Sandborn; the negative by R. T. McCluggage, H. F. McKinley, and B. C. Ludlam, of Fairmount. The judges, who were Supt. M. E. Pearson and Rev. Edwin Locke of Kansas City, Kan., and Supt. W. S. Huesner, of Junction City, rendered a unanimous decision in favor of the affirmative. Prof. J. E. Kammeyer presided. It goes without saying that this victory was the cause of great rejoicing among our students, and the wish is generally expressed that this might be but the first of a series of intercollegiate debates between this and other institutions. While this debate was going on here, a similar contest was taking place in Wichita between teams of the same schools, with this difference, that Fairmount took the affirmative there, while our team took the negative. The decision there was in favor of the affirmative also. Our Wichita team consisted of W. D. Roth, W. S. Davison, and Frances Wyland. Preparations for these contemporaneous debates had been going on for nearly a year, and great credit is due to the members of both our teams for their perseverance and hard work. Acknowledgments are due also to the Department of Public Speaking and to the members of the Debating Council, especially Messrs. Weaver and Stratton, for their coöperation.

Board of Instruction (concluded from second page).

INSTRUCTORS (Concluded).

William L. House.....Instructor in Woodwork, Foreman of Carpenter Shop
 Louis Wabnitz.....Instructor in Machine Tool Work, Foreman of Machine Shop
 Ambrose E. Ridenour, B. S. (K. S. A. C.).....Instructor in Moulding, Foreman of Foundry
 J. H. Hollar.....Instructor in Forging, Foreman of Blacksmith Shop

ASSISTANTS.

Miss Ina E. Holroyd, B. S. (K. S. A. C.), (K. S. N.).....Assistant in Mathematics
 Miss Kate Tinkey.....Assistant Librarian
 Earl N. Rodell, B. S. (K. S. A. C.).....Assistant in Printing
 Chas. Yost.....Assistant in Heat and Power Department
 Earle B. Millard.....Assistant in Machine Shops
 J. T. Parker.....Assistant in Woodwork
 E. G. Meinzer, M. A. (Olivet College).....Assistant in German
 Hugh Oliver.....Assistant in Heat and Power Department
 Miss Charlaïne Furley, B. A. (Fairmount College).....Assistant in English
 Miss Jessie Reynolds, A. B. (University of Kansas).....Assistant in History
 William C. Lane, B. S. (K. S. A. C.).....Assistant in Electrical Engineering
 Miss Flora C. Knight, A. B. (University of Wyoming).....Assistant in English
 Miss Grace H. Woodward (Boston School of Domestic Science)....Asst. in Domestic Science
 Miss Margaret A. Mack (Kansas State Normal School).....Assistant in History
 S. W. McGarragh, M. A. (Grove City College).....Assistant in Mathematics
 C. A. Arthur Utt, M. S. (Cornell College).....Assistant in Chemistry
 Miss Florence Warner, A. B. (University of Illinois).....Assistant Librarian
 Miss Anna Gordon, A. B. (Iowa College).....Assistant in History
 Miss Bertha M. Johnston (Simmons College).....Assistant in Domestic Science
 Harrison E. Porter, B. S. (K. S. A. C.).....Assistant in Mathematics
 J. B. Parker, M. A. (Ohio State University).....Assistant in Entomology
 Allen G. Philips, B. S. (K. S. A. C.).....Assistant in Poultry
 Miss Gertrude Cannon (Bethany College) (Oberlin Conservatory).....Assistant in Music
 Miss Bertha Bisby.....Assistant in Mathematics
 Fred M. Hayes, D. V. M. (K. S. A. C.).....Assistant in Veterinary Science
 Miss Bertha Donaldson (University of Chicago).....Assistant in Domestic Art
 Miss Elizabeth Putnam (Chicago Art Institute).....Assistant in Drawing
 L. E. Petty, A. B. (Wabash College).....Assistant in Mathematics
 Jules C. Cunningham, B. S. (K. S. A. C.).....Assistant in Horticulture
 Miss Annie E. Lindsey (Simmons College).....Assistant in Domestic Science
 Miss Amy Allen, B. S. (K. S. A. C.).....Assistant in Printing
 John E. Smith, B. S. (Oregon Agricultural College).....Assistant in Botany
 R. C. Wiley, B. S. (Oklahoma A. & M. College).....Assistant in Chemistry
 Porter J. Newman, B. S. (Franklin College).....Assistant in Chemistry
 C. E. Griffin, M. S. (University of Michigan).....Assistant in Chemistry
 C. W. Nash, B. S. (Iowa State College).....Assistant in Crops
 Chas. Doryland, B. S. (K. S. A. C.).....Assistant in Soils
 R. C. Thompson, B. S. (K. S. A. C.).....Assistant in Chemistry
 R. H. Wilson, D. V. M. (K. S. A. C.).....Assistant in Bacteriology
 Miss Helen Huse, B. S. (K. S. A. C.).....Assistant in Domestic Science
 E. F. Kubin, D. V. M. (K. S. A. C.).....Assistant in Veterinary Science
 B. S. Orr, B. S. (K. S. A. C.).....Assistant in Mechanical Engineering
 Elmer Johnson, B. S. (K. S. A. C.).....Assistant in Mechanical Engineering
 A. B. Nystrom, B. S. (K. S. A. C.).....Assistant in Dairy Husbandry
 A. Miyawaki, M. S. (K. S. A. C.).....Assistant in Experimental Dairying
 Geo. C. Wheeler, B. S. (K. S. A. C.).....Farm Management, Farmers' Institute Department
 C. V. Holsinger, B. S. (K. S. A. C.).....Horticulture, Farmers' Institute Department
 P. E. Crabtree.....Farm Management, Farmers' Institute Department
 Miss Frances L. Brown, B. S. (K. S. A. C.).....Domestic Science, Farmers' Institute Department
 C. H. Hinman, A. B. (University of Nebraska).....Dairying, Farmers' Institute Department
 W. S. Gearhart, B. S. in C. E. (University of Missouri).....Highway Engr., Farmers' Inst. Dept.
 Miss Ethel Byerly, (Drexel Institute).....Assistant in Domestic Art
 T. G. Patterson, B. S. (University of Minnesota).....Assistant in Animal Husbandry
 Mrs. Jessie Gulick.....Assistant in Library
 Miss Mary Mudge, B. S. (K. S. A. C.).....Assistant in Library
 Miss Estella M. Boot, M. A. (Northwestern University).....Assistant in English
 J. R. Jenness, B. S. (Denison College).....Assistant in Physics
 Harry Evans, B. S. (Ohio State University).....Assistant in Entomology
 Miss Ada Baum (Chicago Musical College).....Assistant in Music
 Miss Ethel K. M. Ping (Sherwood Music School).....Assistant in Music
 E. P. Johnston, A. B. (Oberlin College) (Emerson Coll. of Oratory)... Asst. in Public Speaking
 Dean H. Rose, M. A. (Washington University, St. Louis).....Assistant in Botany
 Miss Anna Monroe, B. S. (K. S. A. C.).....Assistant in Botany
 Miss Madge Kay, B. S. (University of Chicago).....Assistant in Mathematics
 C. A. Jackson, B. S. (Purdue University).....Assistant in Mathematics
 D. O. Stone, C. E. (Cornell University).....Assistant in Civil Engineering
 Paul W. Graff, B. S. (Connecticut Agricultural College).....Assistant in Botany
 T. R. H. Wright, B. S. A. (University of Missouri).....Assistant in Animal Husbandry
 L. A. Chase.....Assistant in History
 Henry Wagner.....Assistant in Heat and Power
 A. E. White, M. S. (Purdue University).....Assistant in Mathematics
 H. W. Edson, A. M. (Harvard University).....Assistant in English
 M. R. Bowerman, B. S. (Michigan Agricultural College).....Assistant in Mechanical Engineering
 Frank C. Harris, B. S. (K. S. A. C.).....Assistant in Architecture and Drawing
 Geo. A. Westphalinger.....Band Leader
 Wm. A. Lamb.....Superintendent of Poultry Plant
 Floyd Howard.....Farm Foreman

THE INDUSTRIALIST

Vol. 36

Saturday, April 30, 1910

No. 25

Issued Weekly By
Kansas State Agricultural College
Manhattan, Kansas



Revised Courses of Study (Concluded)

Veterinary Science
Printing
Home Economics
General Science

Agronomy, Animal Husbandry, Dairy Husbandry, Horticulture, Mechanical Engineering, Electrical Engineering, Civil Engineering and Architecture appeared in No. 24, Vol. 36.

Published by
PRINTING DEPARTMENT
J. D. Rickman, Supt.

Entered at post-office, Manhattan, Kan., as second-class matter. Act of July 16, 1894

THE INDUSTRIALIST.

PRES. H. J. WATERS.....	Editor-in-Chief
DR. J. D. WALTERS.....	Local Editor
DR. J. T. WILLARD.....	Alumni Editor

BOARD OF REGENTS.

HON. W. E. BLACKBURN, President.....	Anthony
HON. J. O. TULLOSS ['99], Vice-President.....	Sedan
HON. EDWIN TAYLOR.....	Edwardsville
HON. ARTHUR CAPPER.....	Topeka
HON. A. L. SPONSLER.....	Hutchinson
HON. TOM BLODGETT.....	Wichita
PRES. H. J. WATERS, Secretary <i>ex-officio</i>	Manhattan

BOARD OF INSTRUCTION

FACULTY.

HENRY J. WATERS, B. S. A. (University of Missouri).....	President
ED. H. WEBSTER, B. S. A. (Ia. S. C.), M. S. (K. S. A. C.).....	Director Exp. Sta., Dean of Agriculture
JOHN D. WALTERS, D. A. (K. S. A. C.).....	Professor of Architecture and Drawing
JULIUS T. WILLARD, D. Sc. (K. S. A. C.), Prof. of Chem. V.-Director Exp. Sta., Dean of Science	
BENJ. L. REMICK, Ph. M. (Cornell College).....	Professor of Mathematics
BENJ. F. EYER, E. E. (Armour Institute of Technology).....	Prof. of Electrical Engineering
HERBERT F. ROBERTS, M. S. (K. S. A. C.).....	Professor of Botany
WILLIAM A. MCKEEVER, Ph. M. (University of Chicago).....	Professor of Philosophy
EDMUND B. MCCORMICK, S. B. (Mass. Inst. of Tech.).....	Prof. of Mech. Eng., Dean of Mech. Arts
ALBERT DICKENS, M. S. (K. S. A. C.).....	Professor of Horticulture, Supt. of Grounds
CLARK M. BRINK, Ph.D. (U. of City of N. Y.).....	Prof. of English, Dean of the Coll., Asst. to Pres.
ALBERT M. TEN EYCK, B. Agr. (University of Wisconsin).....	Prof. of Agronomy, Supt. of Farm
RALPH R. PRICE, M. A. (University of Kansas).....	Professor of History and Civics
JULIUS E. KAMMEYER, M. A. (Central Wesleyan College).....	Professor of Economics
JOHN V. CORTELYOU, Ph.D. (Heidelberg).....	Professor of German
OLOF VALLEY, B. M. (Chicago Conservatory).....	Professor of Music
F. S. SCHOENLEBER, D. V. S. (Chicago Vet. College).....	Professor of Veterinary Science
ROLAND J. KINZER, B. S. A. (Iowa State College).....	Professor of Animal Husbandry
WALTER E. KING, M. S. (Cornell University).....	Professor of Bacteriology
THOMAS J. HEADLEE, Ph.D. (Cornell University).....	Professor of Entomology
CHAS. H. BOICE, First Lieutenant Seventh Cavalry, U. S. A.....	Professor of Military Science
JOHN C. KENDALL, B. S. (New Hampshire A. & M. College).....	Professor of Dairy Husbandry
JOHN O. HAMILTON, B. S. (University of Chicago).....	Professor of Physics
MRS. MARY P. VANZILE, (Iowa State College).....	Prof. of Domestic Science, Dean of Women
JOSHUA D. RICKMAN.....	Superintendent of Printing
MISS MARGUERITE E. BARBOUR (Sargent Nor. Sch. Phys. Tr.), Director of Physical Training	
MISS ANTONETTA BECKER (Drexel Institute).....	Professor of Domestic Art
MISS GERTRUDE BARNES.....	Librarian
LOWELL E. CONRAD, M. S. (Lehigh University).....	Professor of Civil Engineering
JOHN H. MILLER, M. A.....	Superintendent Farmers' Institutes
MISS MARGARET BUTTERFIELD.....	Secretary
WILLIAM R. LEWIS.....	Custodian

ASSISTANT PROFESSORS.

JACOB LUND, M. S. (K. S. A. C.).....	Superintendent Heat and Power Department
ANDREY A. POTTER, S. B. (Mass. Inst. of Tech.).....	Asst. Professor of Mechanical Engineering
ROBERT H. BROWN, B. M. (Kan. Con. of Music), B. S. (K. S. A. C.).....	Asst. Professor of Music
GEO. A. DEAN, M. S. (K. S. A. C.).....	Assistant Professor of Entomology
WILLIAM H. ANDREWS, A. B. (University of Chicago).....	Assistant Professor of Mathematics
ROBERT E. EASTMAN, M. S. (Cornell University).....	Assistant Professor of Forestry
LELAND E. CALL, B. S. (Ohio State University).....	Assistant Professor of Soils
ROY A. SEATON, B. S. (K. S. A. C.).....	Assistant Professor of Mechanical Engineering
LEONARD W. GOSS, D. V. M. (Ohio State University).....	Asst. Professor of Veterinary Science
GEO. E. BRAY, M. E. (University of Minnesota).....	Asst. Prof. Mech. Engineering, Supt. of Shops
MISS ULA M. DOW, B. S. (K. S. A. C.).....	Assistant Professor of Domestic Science
H. H. KING, M. A. (Ewing College).....	Assistant Professor of Chemistry
JOHN B. WHELAN, M. A. (University of Nebraska).....	Assistant Professor of Chemistry
C. O. SWANSON, M. Agr. (University of Minnesota).....	Asst. Prof. of Agricultural Chemistry
ROBT. J. BARNETT, B. S. (K. S. A. C.).....	Assistant Professor of Mathematics
LOUIS H. BEALL, A. B. (Denison College).....	Assistant Professor of English
WILMER E. DAVIS, M. S. (University of Illinois).....	Assistant Professor of Botany
F. G. KING, B. S. A. (University of Missouri).....	Assistant Professor of Animal Husbandry
K. W. STODDER, D. V. M. (Iowa State College).....	Assistant Professor of Veterinary Science

INSTRUCTORS.

Miss Ada Rice, B. S. (K. S. A. C.).....	Instructor in English
Miss Ella Weeks, A. B. (University of Kansas).....	Instructor in Drawing
Miss Daisy Zeininger, B. A. (Fairmount College).....	Instructor in Mathematics
Theo. H. Scheffer, M. A. (Cornell University).....	Instructor in Zoölogy
L. D. Bushnell, B. S. (University of Michigan).....	Instructor in Bacteriology
M. Francis Ahearn, B. S. (Massachusetts Agricultural College).....	Instructor in Horticulture
Burton Rogers, D. V. M. (Iowa State College).....	Instructor in Veterinary Science
Kirk H. Logan, B. S. (University of Kansas).....	Instructor in Physics
Miss Clara Willis (Framingham Normal Institute).....	Instructor in Domestic Science
Miss Ina Cowles, B. S. (K. S. A. C.).....	Instructor in Domestic Art
Miss Gertrude Stump, B. S. (K. S. A. C.).....	Instructor in Domestic Art
Miss Annette Leonard, A. B. (University of Kansas).....	Instructor in English

(Board of Instruction concluded on last page.)

THE INDUSTRIALIST

VOL. 36.

MANHATTAN, KAN., APRIL 30, 1910.

No. 25

Letter From a Long-Ago Student.

From a recent letter to Doctor Walters by P. M. Kokanour, student assistant in the College Printing Department twenty years ago, and at present located at Garvin, Okla., we excerpt the following interesting notes telling of "Peter's" many newspaper ventures in the Sunny South:

"I was indeed pleased to hear from you. I should have recognized your handwriting almost anywhere, having gained familiarity with it setting type on the *INDUSTRIALIST*. Our moves since leaving Manhattan, April 30, 1890, may not interest you; if not, just draw a red line through that part and let it go.

"With my wife and baby boy Elmer, now my partner, I moved to Lake Arthur, La., and started my maiden newspaper there on May 22 of that year. I ran it successfully till November 19, 1892, when at urgent solicitation of business men we went to Jennings, La., eleven miles north, a much larger town, buying the *Reporter* and changing its name to the *Times*. I then left my brother-in-law, A. O. Wright, to run the Lake Arthur *Herald* till April 27, 1893, when I sold it and concentrated my little means at Jennings. We prospered there. In time of the yellow fever tie-up there, three years before the Spanish-American war, I ran a four-page, two-column daily on a job press for seven weeks, using a 200-word telegraphic service, our only news from the outside world. The next May, at the outbreak of the war, citizens having been so insistent, we started a larger daily with a 500-word skeleton telegraph service, the first issue being on the day after Dewey's memorable victory at Manila. I ran the *Daily Times* till November 30, 1900, when I sold out, going to Lake Charles and operating a linotype over a year on the *Daily Press*. I then moved to Siloam Springs, Ark., March 14, 1902, and on October 10, 1903, I founded the *Daily Republican*, with pony wire service of the Associated Press. Here I had the distinction of running a daily in a town of 3500—the smallest town in the United States supporting a daily with Associated Press reports. After several years of experience there, failing health made it necessary to get out of daily

newspaper work, and I sold October 30, 1908, going on the road as salesman for the Ft. Smith Paper Company, of which I am now a stockholder and the vice-president.

"Last August I bought the *Garvin* (Okla.) *Graphic*, sold our home at Siloam Springs and bought a home in Oklahoma, took my son in as a partner, and our oldest daughter Laura, now eighteen, works on the paper. We have seven children, three boys and four girls, all at home, well and hearty. Our baby is seven years old. Elmer is now in his twenty-second year. We like our new home in the new state and are doing a fine business. I am on the road two-thirds of the time. Mother and sister Ella still live in Clay Center and I plan to visit home the coming August."

An Old Student Talks to Printing Classes.

"As an industry printing," said W. E. Miller, editor of the *St. Marys Star*, in his address before the students in printing a short time ago, "holds fifth place, while in its value to the public welfare I would give it third place, placing the church and school, respectively, first and second."

After thus elevating the printing art, Mr. Miller proceeded to solve some of the "after graduation" problems likely to confront a young K. S. A. C. printer as, with diploma in hand, he faced the cold, cold world. He also briefly discussed ethics in the newspaper world and referred his listeners to his address on "Newspaper Ethics" delivered before the recent State Editorial Association at Wichita for a more elaborate discussion of this subject. It was this code of ethics proposed by Mr. Miller that was adopted by the association at this meeting, and which has won considerable notoriety in newspaperdom for Mr. Miller.

The young printer-journalists enjoyed this address of Mr. Miller's, mainly perhaps because it was from one who had himself been educated in this College and knew on just what topics his advice would be most valuable.—*H. S.*

To know every detail, to gain an insight into each secret, to learn every method, to secure every kind of skill, are the prime necessities of success in any art, craft, or trade. No time is too long, no study too hard, no discipline too severe for the attainment of complete familiarity with one's work and complete ease and skill in the doing of it. As a man values his working life, he must be willing to pay the highest price of success in it—the price which severe training exacts.—*Hamilton Wright Mabie.*

Adaptation Courses.

The Arabic numeral immediately following the name of a subject indicates the credit units, and those in parenthesis the hours per week of recitation and laboratory, respectively.

FRESHMEN 1910-'11.*Veterinary Science Course.***FALL TERM.**

Classics
4 (4-0)
Chemistry I
4 (3-2)
Anatomy I
6 (1-10)
Geometry I
4 (4-0)

WINTER TERM.

Methods of Study
1 (1-0)
Chemistry II
4 (2-4)
Anatomy II
4 (1-6)
Geometry II
4 (4-0)
Histology I
6 (3-6)

SPRING TERM.

Advanced Composition
4 (4-0)
Chemistry III
4 (3-2)
Anatomy III
4 (1-6)
Public Speaking
4 (4-0)
Histology II
2 (1-2)

Printing Course.

Classics
4 (4-0)
Chemistry I
4 (3-2)
Freehand Drawing
2 (0-4)
Composition I
2 (0-4)
Woodwork I
2 (0-4)
Geometry I
4 (4-0)

Methods of Study
1 (1-0)
Chemistry II
4 (2-4)
Geometrical Drawing
1 (0-2)
Composition II
6 (0-12)
Blacksmithing I
2 (0-4)
Geometry II
4 (4-0)

Advanced Composition
4 (4-0)
Chemistry III
4 (3-2)
Object Drawing I
2 (0-4)
Composition III
6 (0-12)
Machine Shop I
2 (0-4)

Home Economics Course.

Classics
4 (4-0)
Chemistry I
4 (3-2)
Geometry I
4 (4-0)
Sewing I
2 (0-4)
Freehand Drawing
2 (0-4)
Geometrical Drawing
1 (0-2)
Methods of Study
1 (1-0)

Advanced Composition
4 (4-0)
Chemistry II
4 (2-4)
Geometry II
4 (4-0)
Sewing II
2 (0-4)
Object Drawing I
2 (0-4)
Domestic Science I
2 (0-4)

Rhetoric I
4 (4-0)
Chemistry III
4 (3-2)
Physics IV
4 (4-0)
Sewing III
2 (0-4)
Object Drawing II
1 (0-2)
Domestic Science II
3 (1-4)

General Science Course.

Classics
4 (4-0)
Chemistry I
4 (3-2)
Geometry I
4 (4-0)
Freehand Drawing
2 (0-4)
Geometrical Drawing
1 (0-2)
Woodwork I
2 (0-4), or
Sewing I
2 (0-4)
Methods of Study
1 (1-0)

Advanced Composition
4 (4-0)
Chemistry II
4 (2-4)
Geometry II
4 (4-0)
Object Drawing I
2 (0-4)
Projection Drawing
2 (0-4)
Woodwork II
2 (0-4), or
Sewing II
2 (0-4)

Rhetoric I
4 (4-0)
Chemistry III
4 (3-2)
Trigonometry
4 (4-0)
Agriculture
4 (4-0), or
Cooking
4 (2-4)
Blacksmithing I
2 (0-4), or
Sewing III
2 (0-4)

Veterinary Science Course.

The Arabic numeral immediately following the name of a subject indicates the credit units, and those in parenthesis the hours per week of recitation and laboratory, respectively.

FRESHMAN.

FALL TERM.	WINTER TERM.	SPRING TERM.
Narrative Writing 4 (4-0)	Methods of Study 1 (1-0)	Theme Writing 4 (4-0)
Chemistry I 4 (3-2)	Chemistry II 4 (2-4)	Chemistry III 4 (3-2)
Anatomy I 6 (1-10)	Anatomy II 4 (1-6)	Anatomy III 4 (1-6)
Zoölogy IV 4 (2-4)	Zoölogy V 4 (2-4)	Public Speaking 4 (4-0)
	Histology I 6 (3-6)	Histology II 2 (1-2)

SOPHOMORE.

History of English Literature 4 (4-0)	Philosophy 4 (4-0)	College Rhetoric 4 (4-0)
Comparative Physiology I 2 (2-0)	Comparative Physiology II 6 (4-4)	Comparative Physiology III 4 (2-4)
Anatomy IV 4 (1-6)	Anatomy V 4 (1-6)	Anatomy VI 3 (1-4)
Histology III 4 (2-4)	General Bacteriology 4 (2-4)	Pathology I 4 (4-0)
Qualitative Analysis 4 (2-4)		Pharmacy 1 (0-2)
		Medical Botany 2 (1-2)

JUNIOR.

Pathology II 4 (2-4)	Pathology III 4 (2-4)	Pathology IV 4 (2-4)
Surgery I 2 (0-4)	Surgery II 4 (2-4)	Surgery III 2 (1-2)
Zoölogy IX (Embryology) 4 (2-4)	Medicine I 4 (4-0)	Medicine II 4 (4-0)
Materia Medica I 4 (4-0)	Materia Medica II 4 (4-0)	Pathological Bacteriology 4 (2-4)
Constitutional History 4 (4-0), or German I 4 (4-0)	Business Law 2 (2-0), or German II 4 (4-0)	Agricultural Economics 4 (4-0), or German III 4 (4-0)
Clinic	Clinic	Clinic

SENIOR.

Parasitology 3 (2-2)	Milk Inspection 2 (0-4)	Meat Inspection 3 (3-0)
Surgery IV 4 (4-0)	Surgery V 4 (4-0)	Surgery VI 4 (0-8)
Medicine III 4 (4-0)	Infectious Diseases 4 (4-0)	Medicine IV 4 (4-0)
Principles of Feeding 4 (4-0)	Obstetrics 4 (4-0)	Principles of Breeding 4 (4-0)
Live Stock III 3 (1-4)	Live Stock V 3 (1-4)	Live Stock IV 3 (1-4)
Clinic	Pedigrees 1 (0-2)	Clinic
	Clinic	

Printing Course.

The Arabic numeral immediately following the name of a subject indicates the credit units, and those in parenthesis the hours per week of recitation and laboratory, respectively.

FRESHMAN.**FALL TERM.**

Narrative Writing
4 (4-0)
Chemistry I
4 (3-2)
Projection Drawing
1 (0-2)
Composition I
3 (0-6)
Woodwork I
2 (0-4)
Algebra IV
4 (4-0)

WINTER TERM.

Theme Writing
4 (4-0)
Chemistry II
4 (2-4)
Object Drawing II
2 (0-4)
Composition II
5 (0-10)
Blacksmithing I
2 (0-4)
Methods of Study
1 (1-0)

SPRING TERM.

History of English Literature
4 (4-0)
Chemistry III
4 (3-2)
Object Drawing III
2 (0-4)
Composition III
6 (0-12)
Machine Shop I
2 (0-4)

SOPHOMORE.

College Rhetoric
4 (4-0)
Economics
4 (4-0)
Reportorial Work I
2 (1-2)
Steam Engineering P
2 (1-2)
Ad. Composition & Dist.
4 (0-8)
Distribution
2 (0-4)

English Literature I
4 (4-0)
Physics VII
4 (3-2)
Reportorial Work II
2 (1-2)
Gas Engines P
2 (1-2)
Job Composition & Dist.
4 (0-8)
Correcting Proofs
2 (0-4)

English Literature II
4 (4-0)
Physics VIII
4 (3-2)
Reportorial Work III
2 (1-2)
Electric Motors
2 (1-2)
Tabular Composition
4 (0-8)
Make-up and Imposition
2 (0-4)

JUNIOR.

Reportorial Work IV
2 (1-2)
Civics
4 (4-0)
Job Presswork I
4 (0-8)
Sociology
4 (4-0)
Zoölogy IV
4 (2-4)

Reportorial Work V
2 (1-2)
American History I
4 (4-0)
Job Presswork II
3 (0-6)
Wage Problems
2 (2-0)
Business Organization
2 (2-0)
International Law
2 (2-0)
Cutting Stock
1 (0-2)
Business Law
2 (2-0)

Ad. Writing
2 (1-2)
American History II
4 (4-0)
Job Presswork III
3 (0-6)
Public Finance
2 (2-0)
Banks and the Mechanism of Exchange
2 (2-0)
Zoölogy V
4 (2-4)
Trimming and Tabbing
1 (0-2)

SENIOR.

Psychology
4 (4-0)
Plant Anatomy
4 (2-4)
Editing Copy
2 (0-4)
Cylinder Presswork I
3 (0-6)
Estimating Jobs
1 (0-2)
Modern Europe
4 (4-0)

Philosophy
4 (4-0)
Plant Physiology I
4 (2-4)
Editorial Writing I
4 (2-4)
Cylinder Presswork II
3 (0-6)
Papers, Rollers & Inks
1 (0-2)
History of Printing
2 (1-2)

English History
4 (4-0)
Public Speaking
4 (4-0)
Editorial Writing II
4 (2-4)
Color Comp. and Press.
2 (0-4)
Methods and Management
2 (0-4)

THE INDUSTRIALIST.

Home Economics Course.

The Arabic numeral immediately following the name of a subject indicates the credit units, and those in parenthesis the hours per week of recitation and laboratory, respectively.

FRESHMAN.

FALL TERM.

Narrative Writing
4 (4-0)
Chemistry I
4 (3-2)
Algebra IV
4 (4-0)
Methods of Study
1 (1-0)
Domestic Art I
3 (1-4)
Object Drawing II
2 (0-4)

WINTER TERM.

Theme Writing
4 (4-0)
Chemistry II
4 (2-4)
Physics IV
4 (4-0)
Domestic Science I
2 (0-4)
Domestic Art II
2 (0-4)
Object Drawing III
2 (0-4)

SPRING TERM.

History of English Literature
4 (4-0)
Chemistry III
4 (3-2)
Physics V.
4 (4-0)
Domestic Science II
3 (1-4)
Domestic Art III
3 (1-4)

SOPHOMORE.

College Rhetoric
4 (4-0)
Zoölogy IV
4 (2-4)
Qualitative Analysis
4 (2-4)
Color and Design I
2 (0-4)
Domestic Art IV
3 (0-6)
Drafting
1 (0-2)

English Literature
4 (4-0)
Zoölogy V
4 (2-4)
El. Organic Chemistry
4 (4-0)
Color and Design II
3 (0-6)
Domestic Art V
3 (1-4)

Public Speaking
4 (4-0)
Zoölogy IX
4 (3-2)
Human Physiology
4 (4-0)
Home Decoration
2 (0-4)
Domestic Art VI
2 (0-4)
Domestic Science III
2 (2-0)

JUNIOR.

German I
4 (4-0)
General Bacteriology
4 (2-4)
Household Chemistry
4 (1-6)
Human Nutrition
4 (4-0)
Domestic Art VII
2 (2-0)

German II
4 (4-0)
Household Bacteriology
2 (0-4)
Landscape Gardening
2 (2-0)
Domestic Science IV
6 (3-6)
Psychology
4 (4-0)

German III
4 (4-0)
Civics
4 (4-0)
Kitchen Gardening
2 (2-0)
Domestic Science V
8 (3-10)

SENIOR.

American History I
4 (4-0)
Domestic Science VI
6 (3-6)
Electives
8 (-)

American History II
4 (4-0)
Domestic Science VII
4 (4-0)
Entomology V (Economic)
2 (2-0)
Electives
8 (-)

Economics
4 (4-0)
Domestic Science VIII
3 (3-0)
Domestic Science IX
3 (0-6)
Electives
8 (-)

ELECTIVES.

Domestic Science X
4 (4-0)
Domestic Art VIII
4 (0-8)
Physiological Chemistry I
4 (4-0)
German IV
4 (4-0)
Rhetoric of Oratory
2 (2-0) and
Argumentation and Debate
2 (2-0)
Music
4 (4-0)

Domestic Science XI
4 (2-4)
Domestic Art IX
4 (0-8)
Physiological Chemistry II
4 (4-0)
German V
4 (4-0)
The Drama
4 (4-0)
Music
4 (4-0)

Domestic Science XII
4 (2-4)
Domestic Art X
4 (0-8)
Hygienic Bacteriology
4 (2-4)
German VI
4 (4-0)
American Literature
4 (4-0), or
XIX Century Literature
4 (4-0)
Music
4 (4-0)

History of Education, Philosophy of Education, Methods of Teaching, School Management and School Law are required by Kansas State Law of all who are candidates for a State Teacher's certificate. These courses are offered by the College and may be taken as electives.

General Science Course.

The Arabic numeral immediately following the name of a subject indicates the credit units, and those in parenthesis the hours per week of recitation and laboratory, respectively.

FRESHMAN.

FALL TERM.	WINTER TERM.	SPRING TERM.
Narrative Writing 4 (4-0)	Theme Writing 4 (4-0)	History of English Literature 4 (4-0)
Chemistry I 4 (3-2)	Chemistry II 4 (2-4)	Chemistry III 4 (3-2)
Algebra IV 4 (4-0)	Trigonometry 4 (4-0)	College Algebra 4 (4-0)
Zoölogy I 4 (2-4)	Zoölogy II 4 (2-4)	Zoölogy III 4 (2-4)
Projection Drawing 1 (0-2)	Object Drawing II 2 (0-4)	Object Drawing III 2 (0-4)
Methods of Study 1 (1-0)		

SOPHOMORE.

College Rhetoric 4 (4-0)	English Literature I or English Literature* 4 (4-0)	English Literature II or Pl. Anal. Geom.* 4 (4-0)
Public Speaking I 4 (4-0)	Physics VII 4 (3-2)	Physics VIII 4 (3-2)
Qualitative Analysis 4 (2-4)	El. Organic Chemistry 4 (4-0)	English History 4 (4-0)
Plant Anatomy 4 (2-4)	Plant Physiology I 4 (2-4)	Plant Physiology II 4 (2-4)

JUNIOR.

Psychology 4 (4-0)	Civics 4 (4-0)	Economics 4 (4-0)
Electives 12 or more credit units	Electives 12 or more credit units	Electives 12 or more credit units

SENIOR.

American History I 4 (4-0)	Philosophy 4 (4-0)	Electives 16 or more credit units
Electives 12 or more credit units	Electives 12 or more credit units	

*If the student is planning to elect the biological groups for the Junior and Senior years, English Literature and Analytical Geometry must be chosen at this point instead of English Literature I and II.

Elective Groups—General Science Course.

FALL TERM.	WINTER TERM.	SPRING TERM.
1		
German I 4 (4-0)	German II 4 (4-0)	German III 4 (4-0)
2		
German IV 4 (4-0)	German V 4 (4-0)	German VI 4 (4-0)
3		
Pl. Analytic Geometry 4 (4-0)	Differential Calculus 4 (4-0)	Integral calculus 4 (4-0)
4		
Physics XII 4 (3-2)	Physics XIII 4 (2-4)	Physics XIV 4 (2-4)
5		
Inorganic Chemistry I 5 (3-4)	Inorganic Chemistry II 5 (3-4)	Inorganic Chemistry III 5 (3-4)
6		
Organic Chemistry I 5 (3-4)	Organic Chemistry II 5 (3-4)	Organic Chemistry III 5 (3-4)
7		
Physiological Chemistry I 4 credit units	Physiological Chemistry II 4 credit units	Human Physiology, 4 (4-0), or Geology, 4 (4-0) or both
8		
General Bacteriology 4 (2-4)	Zoology VI, (Adv. Vertebrate) 4 (2-4)	Zoology VII, (Adv. Vertebrate) 4 (2-4)
9		
Plant Pathology I 4 (2-4)	Plant Pathology II 4 (2-4)	Taxonomic Botany 4 (1-6)
10		
Economic Botany 4 (3-2)	Evolution of Plants 4 (4-0)	Exptl. Plant Breeding 4 (2-4) Mathematics of Biology 4 (4-0)
11		
Entomology I (General) 4 (3-2)	Entomology II (Taxonomic) 4 (0-8)	Entomology III (Economic) 4 (3-2)
12		
Plant Pathology 4 (2-4)	Zoölogy IX (Embryology) 4 (3-2)	Zoölogy VIII (Taxonomic Vert.) 4 (0-8) Mathematics of Biology 4 (4-0)
13		
Plant Pathology I 4 (2-4)	Dairy Bacteriology 4 (2-4)	Soil Bacteriology 4 (2-4)
14		
Hygienic Bacteriology 4 (2-4)	Vaccines, Antitoxins and Serum Therapy 4 (3-2)	Water Purification and Sew- age Disposal 4 (1-6) Mathematics of Biology 4 (4-0)

15

General Bacteriology
4 (2-4)Household Bacteriology
4 (2-4)Human Physiology
4 (4-0)

16

Human Nutrition
4 (4-0)Domestic Science IV
6 (3-6)Domestic Science V
8 (3-10)

17

Drafting and Designing
3 (0-6)
Color and Design I
2 (0-4)
Drafting
1 (0-2)Dressmaking
3 (1-4)Adv. Dressmaking
2 (0-4)

18

History of Education
4 (4-0)Methods of Teaching
4 (4-0)School Management
4 (4-0)
Philosophy of Education
4 (4-0)

19

Farm Crops I
2 (1-2)
Live Stock I
3 (1-4)Farm Crops II
4 (2-4)
Poultry
2 (0-4)Landscape Gardening
3 (2-2)
Live Stock II
3 (1-4)

20

Live Stock III
2 (0-4)
Dairying
4 (2-4)
Farm Crops III
4 (2-4)Farm Mechanics I
2 (1-2)
Forestry I
4 (3-2)
Soils I
4 (2½-3)Plant Propagation
5 (3-4)
Live Stock IV
3 (1-4)
Elective in Agriculture
2-4 (-)

21

Woodwork III G
4 (0-8)Woodwork IV G
3 (0-6)
Wood Turning
3 (0-6)Foundry and Pattern Mkg.
6 (0-12)

22

Physics IX
5 (3-4)
Blacksmithing II
2 (0-4)
Machine Shop I
2 (0-4)
Manual Training Drawing I
1 (0-2)
Kinematics I
4 (4-0)Physics X
5 (3-4)
Blacksmithing III G
3 (1-4)
Machine Shop II
2 (0-4)
Manual Training Drawing II
4 (0-8)Physics XI
5 (3-4)
Blacksmithing IV G
2 (1-2)
Machine Shop III G
3 (1-4)
Manual Training Drawing III
2 (0-4)
Clay Modeling
2 (0-4)

23

Rhetoric of Oratory
2 (2-0)
Argumentation and Debate
2 (2-0)The Drama
4 (4-0)American Literature or
19th Century Literature
4 (4-0)

24

Sociology
4 (4-0)Business Organization
2 (2-0)
Wage Problems
2 (2-0)Banks and the Mechanism of Exchange
2 (2-0)
Public Finance
2 (2-0)

25

Theory of Music
History of Music
HarmonyOne hour of each per week each term through the year with
instrumental or vocal music daily. 12 credit units.

26

Harmony, continued through the year with instrumental or vocal lessons and daily practice.
12 credit units.

27

Modern Europe
4 (4-0)

Business Law
2 (2-0)
International Law
2 (2-0)

American History II
4 (4-0)

28

Sociology
4 (4-0)

Business Law
2 (2-0)
International Law
2 (2-0)

American Literature
4 (4-0)

29

Entomology I (General)
4 (2-4)

General Bacteriology
4 (2-4)

Human Physiology
4 (4-0)
Geology I (General)
4 (4-0)

The following subjects and others may be elected independently of other members of groups if prerequisites have been taken:

Entomology I
4 (2-4)

Technique of Speech
2 (2-0)

Human Physiology
4 (4-0)

General Bacteriology
4 (2-4)

General Bacteriology
4 (2-4)

Geology
4 (4-0)

Sociology
4 (4-0)

Ethics
4 (4-0)

American Literature
4 (4-0)

Modern Europe
4 (4-0)

School Law
2 (2-0)

Forms of Public Address
4 (4-0)

American History II
4 (4-0)

The following illustrative combinations have been arranged:

Physics and Mathematics—1, 3, 4, 5, 28 and 29.

Chemistry, Physics and Mathematics—1, 2, 3, 4, 5, 6 and Geology.

Chemistry and Mathematics—1, 2, 3, 5, 6 and 7, including both Physiology and Geology.

Chemistry and Domestic Science—1, 2, 5, 6, 15 and 16.

Biological Science, major work in Botany—1, 2, 7, 8, 9 and 10.

Biological Science, major work in Zoölogy—1, 2, 7, 8, 11 and 12.

Biological Science, major work in Bacteriology—1, 2, 7, 8, 13 and 14.

Education and Domestic Science and Art—1, 2, 15, 16, 17 and 18.

Education and Agriculture—1, 2, 18, 19 and 20.

Education and Manual Training—3, 18, 21 and 22.

Education and Humanities—18, 23, 24 and 27 and two groups Mathematics or Science.

History and English—1, 2, 23, and 27 and two groups Mathematics or Science.

History and Economics—1, 2, 24 and 27 and the two groups Mathematics or Science.

Economics and English—1, 2, 23, 24 and two groups Mathematics or Science.

English and Music—1, 23, 25, 26 and two groups Mathematics or Science.

Local Notes.

The Mid-term examinations will be held Saturday, May 7.

The summer course in domestic science will begin Tuesday, May 17, and close July 22.

Manhattan is making preparations to construct an artificial fish lake somewhere up the Blue.

An Ayrshire cow raised by the College is giving over 60 pounds—over seven gallons—of milk per day. At six cents a quart she produces a dollar and sixty-eight cents worth of milk.

A big cattle train, consisting of three locomotives and fifty loaded cars containing 1500 head of stockers, passed through Manhattan last Monday. The cattle represented a value of about \$50,000.

The College is receiving a good many requests for assistance in silo construction. Many farmers come in person to Manhattan to inspect our silos and ask for assistance in building silos on their farms.

The student recital of the Music Department last Wednesday night in the College Auditorium was a complete success. The program was varied and rich and the attendance large and appreciative. The recital added another credit mark to the many earned by the Music Faculty.

Senator James G. Watson, of Indiana, talked Thursday morning to the students after chapel exercises. He spoke on ideals of success and the important part played by determination in winning success. While some of his ideas were not new he had an eloquent way of presenting them and was heartily applauded.

The dry weather of the past four or five weeks has greatly helped one man "on the hill." Walter Stingley, contractor of the new Nichols Gymnasium, has used the cool, bright spring days to the utmost. The concrete of the foundations is now in place and the walls are going up rapidly. There are over half a hundred men at work on the job.

Highway Engineer W. S. Gearhart has returned from Jackson county, where he has made a preliminary survey of Straight Creek drainage district near Whiting, where a drainage plan is contemplated that will reclaim about 1200 acres of very fertile land. He is now at work preparing drawings and estimates for the project. The land owners hope to finish it this summer.

Highway Engineer W. S. Gearhart will attend the letting, at Dodge City on May 9, of about five miles of road-bed which will be constructed by the Board of Managers of the State Soldiers' Home. In the last week of May he will be at Fort Scott to inspect the project of the proposed rock road from Fort Scott to Kansas City. He will also hold good-roads meetings at Holton, Pleasanton, Prescott, Paola, and Olathe.

Some half-dozen years ago the *Kansas Farmer* wrote strong articles against the automobile. The *Farmer* reasoned that the auto was a competitor of the horse and that the farmer had no use for the machine-wagon, however much inhabitants of large cities might wish to use it. The last number of the paper contains a strong article entitled: "The Automobile Belongs on the Farm."

President Waters, of this College, will deliver a course of lectures on beef production in the American Graduate School of Agriculture, which this summer will be held at the Iowa State Agricultural College. He is billed for five lectures and two seminars covering the following subjects: Lecture 1, How an Animal Grows. Lecture 2, Why We Fatten an Animal. Lecture 3, Factors Affecting Type and Form. Lecture 4, Factors Affecting the Quality of the Carcass. Lecture 5, Influence of Breed and Food Upon the Value of the Carcass. Seminary 1, When is a Beef Steer Finished for Market. Seminary 2, In What Respect Has the Modern Beef Steer Deviated from Ancestral Types, and What Factors Have Favored the Variation. President Waters' lectures will be given during the week beginning July 4.

The April number of the *Progressive Printer*, a magazine printed in St. Louis, reproduces the title-page of a booklet issued by the Printing Department of this College and comments as follows: "The title-page shown is from a pamphlet, setting up the courses and facilities of the instruction in the Kansas State Agricultural College at Manhattan, Kan. It may be said in reference to this title-page that we have seen very many title-pages submitted in contests that fell short of the quality exhibited in this title-page, and there are printing-offices in every large city and small places that would feel proud if they could set up a title-page as good as this one and knew they were doing it. If the Kansas State College can in its Printing Department impart instruction in printing that will produce results equal to those shown in this title-page, they are going to send out into the workshops of the country young men who will be ready to become artist printers."

The field committee of the College Athletic Association has taken up the work of obtaining the necessary means for completing the new athletic field which will be located in the southwest corner of the main College farm. The leveling of the grounds, the building of the necessary permanent enclosure, the construction of the needed seats, etc., will cost a large sum; that is, if these improvements are to be made in conformity with modern requirements and of a permanent character. But it should not be difficult to raise any needed amount by voluntary contributions among the thousands of former students and the ten thousands of friends of the institution. The State legislature last year appropriated \$5000 for this purpose, and this amount will be expended during the spring to start the work. In order that every friend of the College may fully understand the details of the appeal that will come to him, Mr. A. G. Philips, '07, will draw up a circular letter answering in full any question that may

arise in the mind of the reader. Enclosed with this letter will be a blank on which the receiver may record the amount of his intended contribution and a statement as to how he wishes to make payment. A plan of the intended improvements will be added to the letter so that every contributor will know just what the College and the Athletic Association intend to undertake.

Mr. C. V. Holsinger, of the College Extension Department, thinks that the fruit outlook for Eastern Kansas is still encouraging. In the low lands fruit has suffered severely from the late freezes, but the upland orchards are showing a good per cent of fruit possibilities. Small fruit has suffered more than the orchards. He has sent out many letters to fruit growers in different parts of the State, inquiring for facts, but has received but few definite answers at this writing (Friday).

The forthcoming catalogue of the Kansas State Agricultural College will probably contain the names of 2300 students who were present during the school year of 1909-10. The total number enrolled to date is 2281, but there are students entering at present every day—teachers of country schools who have completed five or six months of teaching and intend to study here during the remainder of the spring term. The attendance by classes is as follows:

Postgraduate	24
Senior.....	170
Junior.....	286
Sophomore	416
Freshman.....	454
Special	84
Sub-freshman.....	452
Preparatory	89
Domestic Science Short Course.....	137
Farmers' Short Course	235
Dairy Short Course	4
Total	2351

Of this number 70 students are counted twice. Most of these 70 came here to attend short courses and later returned to take the full four-years course. Last year the total attendance was 2308 and year before last 2192. Five years ago it was 1462, ten years ago, 1094, and twelve years ago 803. It was confidently expected that the total attendance the present year would considerably overreach that of last year, but the present spring term fell short of that of a year ago. The cause must be looked for in the condition of the wheat fields of central Kansas. The given figures for the present year do not contain the names of the domestic science teachers' course that begins on May 17 and closes July 22.

Board of Instruction (concluded from second page).

INSTRUCTORS (Concluded).

William L. House.....Instructor in Woodwork, Foreman of Carpenter Shop
 Louis Wabnitz.....Instructor in Machine Tool Work, Foreman of Machine Shop
 Ambrose E. Ridenour, B. S. (K. S. A. C.).....Instructor in Moulding, Foreman of Foundry
 J. H. Hollar.....Instructor in Forging, Foreman of Blacksmith Shop

ASSISTANTS.

Miss Ina E. Holroyd, B. S. (K. S. A. C.), (K. S. N.).....Assistant in Mathematics
 Miss Kate Tinkey.....Assistant Librarian
 Earl N. Rodell, B. S. (K. S. A. C.).....Assistant in Printing
 Chas. Yost.....Assistant in Heat and Power Department
 Earle B. Millard.....Assistant in Machine Shops
 J. T. Parker.....Assistant in Woodwork
 E. G. Meinzer, M. A. (Olivet College).....Assistant in German
 Hugh Oliver.....Assistant in Heat and Power Department
 Miss Charlaune Furley, B. A. (Fairmount College).....Assistant in English
 Miss Jessie Reynolds, A. B. (University of Kansas).....Assistant in History
 William C. Lane, B. S. (K. S. A. C.).....Assistant in Electrical Engineering
 Miss Flora C. Knight, A. B. (University of Wyoming).....Assistant in English
 Miss Grace H. Woodward (Boston School of Domestic Science)....Asst. in Domestic Science
 Miss Margaret A. Mack (Kansas State Normal School).....Assistant in History
 S. W. McGarrah, M. A. (Grove City College).....Assistant in Mathematics
 C. A. Arthur Utt, M. S. (Cornell College).....Assistant in Chemistry
 Miss Florence Warner, A. B. (University of Illinois).....Assistant Librarian
 Miss Anna Gordon, A. B. (Iowa College).....Assistant in History
 Miss Bertha M. Johnston (Simmons College).....Assistant in Domestic Science
 Harrison E. Porter, B. S. (K. S. A. C.).....Assistant in Mathematics
 J. B. Parker, M. A. (Ohio State University).....Assistant in Entomology
 Allen G. Phillips, B. S. (K. S. A. C.).....Assistant in Poultry
 Miss Gertrude Cannon (Bethany College) (Oberlin Conservatory).....Assistant in Music
 Miss Bertha Bisby.....Assistant in Mathematics
 Fred M. Hayes, D. V. M. (K. S. A. C.).....Assistant in Veterinary Science
 Miss Bertha Donaldson (University of Chicago).....Assistant in Domestic Art
 Miss Elizabeth Putnam (Chicago Art Institute).....Assistant in Drawing
 L. E. Petty, A. B. (Wabash College).....Assistant in Mathematics
 Jules C. Cunningham, B. S. (K. S. A. C.).....Assistant in Horticulture
 Miss Annie E. Lindsey (Simmons College).....Assistant in Domestic Science
 Miss Amy Allen, B. S. (K. S. A. C.).....Assistant in Printing
 John E. Smith, B. S. (Oregon Agricultural College).....Assistant in Botany
 R. C. Wiley, B. S. (Oklahoma A. & M. College).....Assistant in Chemistry
 Porter J. Newman, B. S. (Franklin College).....Assistant in Chemistry
 C. E. Griffin, M. S. (University of Michigan).....Assistant in Chemistry
 C. W. Nash, B. S. (Iowa State College).....Assistant in Crops
 Chas. Doryland, B. S. (K. S. A. C.).....Assistant in Soils
 R. C. Thompson, B. S. (K. S. A. C.).....Assistant in Chemistry
 R. H. Wilson, D. V. M. (K. S. A. C.).....Assistant in Bacteriology
 Miss Helen Huse, B. S. (K. S. A. C.).....Assistant in Domestic Science
 E. F. Kubin, D. V. M. (K. S. A. C.).....Assistant in Veterinary Science
 B. S. Orr, B. S. (K. S. A. C.).....Assistant in Mechanical Engineering
 Elmer Johnson, B. S. (K. S. A. C.).....Assistant in Mechanical Engineering
 A. B. Nystrom, B. S. (K. S. A. C.).....Assistant in Dairy Husbandry
 A. Miyawaki, M. S. (K. S. A. C.).....Assistant in Experimental Dairying
 Geo. C. Wheeler, B. S. (K. S. A. C.).....Farm Management, Farmers' Institute Department
 C. V. Holsinger, B. S. (K. S. A. C.).....Horticulture, Farmers' Institute Department
 P. E. Crabtree.....Farm Management, Farmers' Institute Department
 Miss Frances L. Brown, B. S. (K. S. A. C.).....Domestic Science, Farmers' Institute Department
 C. H. Hinman, A. B. (University of Nebraska).....Dairying, Farmers' Institute Department
 W. S. Gearhart, B. S. in C. E. (University of Missouri)....Highway Engr., Farmers' Inst. Dept.
 Miss Ethel Byerly, (Drexel Institute).....Assistant in Domestic Art
 T. G. Patterson, B. S. (University of Minnesota).....Assistant in Animal Husbandry
 Mrs. Jessie Gulick.....Assistant in Library
 Miss Mary Mudge, B. S. (K. S. A. C.).....Assistant in Library
 Miss Estella M. Boot, M. A. (Northwestern University).....Assistant in English
 J. R. Jenness, B. S. (Denison College).....Assistant in Physics
 Harry Evans, B. S. (Ohio State University).....Assistant in Entomology
 Miss Ada Baum (Chicago Musical College).....Assistant in Music
 Miss Ethel K. M. Ping (Sherwood Music School).....Assistant in Music
 E. P. Johnston, A. B. (Oberlin College) (Emerson Coll. of Oratory)... Asst. in Public Speaking
 Dean H. Rose, M. A. (Washington University, St. Louis).....Assistant in Botany
 Miss Anna Monroe, B. S. (K. S. A. C.).....Assistant in Botany
 Miss Madge Kay, B. S. (University of Chicago).....Assistant in Mathematics
 C. A. Jackson, B. S. (Purdue University).....Assistant in Mathematics
 D. O. Stone, C. E. (Cornell University).....Assistant in Civil Engineering
 Paul W. Graff, B. S. (Connecticut Agricultural College).....Assistant in Botany
 T. R. H. Wright, B. S. A. (University of Missouri).....Assistant in Animal Husbandry
 L. A. Chase.....Assistant in History
 Henry Wagner.....Assistant in Heat and Power
 A. E. White, M. S. (Purdue University).....Assistant in Mathematics
 H. W. Edson, A. M. (Harvard University).....Assistant in English
 M. R. Bowerman, B. S. (Michigan Agricultural College).....Assistant in Mechanical Engineering
 Frank C. Harris, B. S. (K. S. A. C.).....Assistant in Architecture and Drawing
 Geo. A. Westphalinger.....Band Leader
 Wm. A. Lamb.....Superintendent of Poultry Plant
 Floyd Howard.....Farm Foreman

THE INDUSTRIALIST

Vol. 36

Saturday, May 7, 1910

No. 26

Issued Weekly By
Kansas State Agricultural College
Manhattan, Kansas



~~~~~  
*Published by*  
**PRINTING DEPARTMENT**  
*J. D. Rickman, Supt.*

Entered at post-office, Manhattan, Kan., as second-class matter. Act of July 16, 1894

# THE INDUSTRIALIST.

|                         |                 |
|-------------------------|-----------------|
| PRES. H. J. WATERS..... | Editor-in-Chief |
| DR. J. D. WALTERS.....  | Local Editor    |
| DR. J. T. WILLARD.....  | Alumni Editor   |

## BOARD OF REGENTS.

|                                                       |              |
|-------------------------------------------------------|--------------|
| HON. W. E. BLACKBURN, President.....                  | Anthony      |
| HON. J. O. TULLOSS ['99], Vice-President.....         | Sedan        |
| HON. EDWIN TAYLOR.....                                | Edwardsville |
| HON. ARTHUR CAPPER.....                               | Topeka       |
| HON. A. L. SPONSER.....                               | Hutchinson   |
| HON. TOM BLODGETT.....                                | Wichita      |
| PRES. H. J. WATERS, Secretary <i>ex-officio</i> ..... | Manhattan    |

## BOARD OF INSTRUCTION

### FACULTY.

|                                                                |                                                     |
|----------------------------------------------------------------|-----------------------------------------------------|
| HENRY J. WATERS, B. S. A. (University of Missouri).....        | President                                           |
| ED. H. WEBSTER, B. S. A. (Ia. S. C.), M. S. (K. S. A. C.)..... | Director Exp. Sta., Dean of Agriculture             |
| JOHN D. WALTERS, D. A. (K. S. A. C.).....                      | Professor of Architecture and Drawing               |
| JULIUS T. WILLARD, D. Sc. (K. S. A. C.), Prof. of Chem. V..... | Director Exp. Sta., Dean of Science                 |
| BENJ. L. REMICK, Ph. M. (Cornell College).....                 | Professor of Mathematics                            |
| BENJ. F. EYER, E. E. (Armour Institute of Technology).....     | Prof. of Electrical Engineering                     |
| HERBERT F. ROBERTS, M. S. (K. S. A. C.).....                   | Professor of Botany                                 |
| WILLIAM A. MCKEEVER, Ph. M. (University of Chicago).....       | Professor of Philosophy                             |
| EDMUND B. MCCORMICK, S. B. (Mass. Inst. of Tech.).....         | Prof. of Mech. Eng., Dean of Mech. Arts             |
| ALBERT DICKENS, M. S. (K. S. A. C.).....                       | Professor of Horticulture, Supt. of Grounds         |
| CLARK M. BRINK, Ph. D. (U. of City of N. Y.).....              | Prof. of English, Dean of the Coll., Asst. to Pres. |
| ALBERT M. TEN EYCK, B. Agr. (University of Wisconsin).....     | Prof. of Agronomy, Supt. of Farm                    |
| RALPH R. PRICE, M. A. (University of Kansas).....              | Professor of History and Civics                     |
| JULIUS E. KAMMEYER, M. A. (Central Wesleyan College).....      | Professor of Economics                              |
| JOHN V. CORTELYOU, Ph. D. (Heidelberg).....                    | Professor of German                                 |
| OLOF VALLEY, B. M. (Chicago Conservatory).....                 | Professor of Music                                  |
| F. S. SCHOENLEBER, D. V. S. (Chicago Vet. College).....        | Professor of Veterinary Science                     |
| ROLAND J. KINZER, B. S. A. (Iowa State College).....           | Professor of Animal Husbandry                       |
| WALTER E. KING, M. S. (Cornell University).....                | Professor of Bacteriology                           |
| THOMAS J. HEADLEE, Ph. D. (Cornell University).....            | Professor of Entomology                             |
| CHAS. H. BOICE, First Lieutenant Seventh Cavalry, U. S. A..... | Professor of Military Science                       |
| JOHN C. KENDALL, B. S. (New Hampshire A. & M. College).....    | Professor of Dairy Husbandry                        |
| JOHN O. HAMILTON, B. S. (University of Chicago).....           | Professor of Physics                                |
| MRS. MARY P. VAN ZILE, (Iowa State College).....               | Prof. of Domestic Science, Dean of Women            |
| JOSHUA D. RICKMAN.....                                         | Superintendent of Printing                          |
| MISS MARGUERITE E. BARBOUR (Sargent Nor. Sch. Phys. Tr.).....  | Director of Physical Training                       |
| MISS ANTONETTA BECKER (Drexel Institute).....                  | Professor of Domestic Art                           |
| MISS GERTRUDE BARNES.....                                      | Librarian                                           |
| LOWELL E. CONRAD, M. S. (Lehigh University).....               | Professor of Civil Engineering                      |
| JOHN H. MILLER, M. A.....                                      | Superintendent Farmers' Institutes                  |
| MISS MARGARET BUTTERFIELD.....                                 | Secretary                                           |
| WILLIAM R. LEWIS.....                                          | Custodian                                           |

### ASSISTANT PROFESSORS.

|                                                                       |                                               |
|-----------------------------------------------------------------------|-----------------------------------------------|
| JACOB LUND, M. S. (K. S. A. C.).....                                  | Superintendent Heat and Power Department      |
| ANDREY A. POTTER, S. B. (Mass. Inst. of Tech.).....                   | Asst. Professor of Mechanical Engineering     |
| ROBERT H. BROWN, B. M. (Kan. Con. of Music), B. S. (K. S. A. C.)..... | Asst. Professor of Music                      |
| GEO. A. DEAN, M. S. (K. S. A. C.).....                                | Assistant Professor of Entomology             |
| WILLIAM H. ANDREWS, A. B. (University of Chicago).....                | Assistant Professor of Mathematics            |
| ROBERT E. EASTMAN, M. S. (Cornell University).....                    | Assistant Professor of Forestry               |
| LELAND E. CALL, B. S. (Ohio State University).....                    | Assistant Professor of Soils                  |
| ROY A. SEATON, B. S. (K. S. A. C.).....                               | Assistant Professor of Mechanical Engineering |
| LEONARD W. GOSS, D. V. M. (Ohio State University).....                | Asst. Professor of Veterinary Science         |
| GEO. E. BRAY, M. E. (University of Minnesota).....                    | Asst. Prof. Mech. Engineering, Supt. of Shops |
| MISS ULA M. DOW, B. S. (K. S. A. C.).....                             | Assistant Professor of Domestic Science       |
| H. H. KING, M. A. (Ewing College).....                                | Assistant Professor of Chemistry              |
| JOHN B. WHELAN, M. A. (University of Nebraska).....                   | Assistant Professor of Chemistry              |
| C. O. SWANSON, M. Agr. (University of Minnesota).....                 | Asst. Prof. of Agricultural Chemistry         |
| ROBT. J. BARNETT, B. S. (K. S. A. C.).....                            | Assistant Professor of Mathematics            |
| LOUIS H. BEALL, A. B. (Denison College).....                          | Assistant Professor of English                |
| WILMER E. DAVIS, M. S. (University of Illinois).....                  | Assistant Professor of Botany                 |
| F. G. KING, B. S. A. (University of Missouri).....                    | Assistant Professor of Animal Husbandry       |
| K. W. STOUDEB, D. V. M. (Iowa State College).....                     | Assistant Professor of Veterinary Science     |

### INSTRUCTORS.

|                                                                    |                                  |
|--------------------------------------------------------------------|----------------------------------|
| Miss Ada Rice, B. S. (K. S. A. C.).....                            | Instructor in English            |
| Miss Ella Weeks, A. B. (University of Kansas).....                 | Instructor in Drawing            |
| Miss Daisy Zeininger, B. A. (Fairmount College).....               | Instructor in Mathematics        |
| Theo. H. Scheffer, M. A. (Cornell University).....                 | Instructor in Zoölogy            |
| L. D. Bushnell, B. S. (University of Michigan).....                | Instructor in Bacteriology       |
| M. Francis Ahearn, B. S. (Massachusetts Agricultural College)..... | Instructor in Horticulture       |
| Burton Rogers, D. V. M. (Iowa State College).....                  | Instructor in Veterinary Science |
| Kirk H. Logan, B. S. (University of Kansas).....                   | Instructor in Physics            |
| Miss Clara Willis (Framingham Normal Institute).....               | Instructor in Domestic Science   |
| Miss Ina Cowles, B. S. (K. S. A. C.).....                          | Instructor in Domestic Art       |
| Miss Gertrude Stump, B. S. (K. S. A. C.).....                      | Instructor in Domestic Art       |
| Miss Annette Leonard, A. B. (University of Kansas).....            | Instructor in English            |

(Board of Instruction concluded on last page.)

# THE INDUSTRIALIST

VOL. 36.

MANHATTAN, KAN., MAY 7, 1910.

No. 26

## A Fresh-Air Vacation That Cured.

Dr. J. D. Walters, Professor of Architecture and Drawing.

The following tale, relating the interesting experiences of a number of young English lords who spent the summer of 1866 with an Italian anarchist and his chum in the pine woods of the Jura mountains, is told for a purpose. If a single city boy or city girl will get a good, long summer outing somewhere on the Kansas prairies, down in the Missouri Ozarks, or wherever fresh air, bright sunshine and pure milk is plenty, the story will have served its intended purpose.

When the writer of this was a student at Solothurn, Switzerland, over forty years ago, there lived near that city, on a low foothill of the Juras, a queer, old Italian by name of Giglielmo Poveretti. The Signor was a jurist by profession—that is, he had successfully passed the exacting state examinations in legal law, but it was not known that he had ever had a case in court or held an office. He was tall, lean, and angular, wore a shabby Prince Albert buttoned up to his chin, and always sported a pair of green spectacles pressed deeply into a stubborn growth of gray whiskers. He had no relatives in the city and seemed to be a solitary, but he was generally considered a man of deep learning and it was whispered among us students that he was an escaped anarchist who had left his country down on the banks of the Tiber because of his uneasy political tendencies. It was known also that at one time he had been a consul or consular agent somewhere in Russia.

Signor Poveretti lived almost like an hermit. The only chum he had was an old man by name of Peter Spiegelberg, a fiddler who years ago had traveled through Europe at the head of a troupe of Alpine warblers. Peter was in many respects the antithesis of the old philosopher. He was stocky, keen, and lazy. He was a basket maker by trade, and sometimes when he saw no way around it he actually sat down and worked—made a few baskets and sold them to the good women of the neighborhood.



It was not known how the peculiar pair had become acquainted, but evidently there must have been points of tangency in their make-up, for the two fellows seemed inseparable. They batched together in an old farm house way up on the side of a hill and seemed to have no use for anybody else. The abode was seldom visited by a neighbor, but it was a romantic place all the same. There were tall beeches in front of the house, a few garden beds on one side, a boiling rivulet on the other, and a dilapidated goat stable in the rear. Behind the stable rose the mountain.

During the day the pair were seldom at home. Signor Giglielmo Poveretti prowled about in the city to get a chance to guide foreign travelers about the narrow, labyrinthic streets of the old Roman town, or through the grand Pisoni cathedral, or perhaps out to the idyllic hermitage, where at the time of Emperor Constantine a saintly woman had hewn for herself a cave in the cliff of a ravine and had preached the gospel to the heathen burghers. Master Peter in the meantime peddled baskets or sold beeswax down in Lauterbach and Zuchwil.

But in the evening when the weather was fine—here is one point of tangency—the two chronies sat together on a bench in front of their picturesque shanty and played violin duets, for Poveretti as well as Spiegelberg was a master on that instrument. They played and played. They played wonderful, cooing adagios, such as are found in Donizetti's "Elixer of Love" and in Mozart's "Magic Flute." They played with a feeling that brought tears to the eyes of many a hidden listener—played a beautiful and strangely enchanting music that reminded one of the "Märchen aus alter Zeit."

Another accomplishment of the pair must be mentioned before the story concerning the "Fresh Air Cure That Cured" can be told. Signor Giglielmo Poveretti was a linguist. He spoke fluently, in addition to his native Italian, also the German, the French, and the English. He even seemed to know what to answer when Russians asked questions. Plain Peter Spiegelberg had a poorer vocabulary, yet he, too, could manage the Italian, for he had been a trumpeter in the royal guards down in Napoli and had yodled and fiddled before the former Emperor of Austria and the pious and gracious Queen of Spain.

And there was still another parallel that both had acquired years ago—they had both of them dabbled in pedagogics. Signor Giglielmo Poveretti had at one time, before he had taken to writing socialistic editorials in the *Propaganda d'Italia*, taught Latin in a preparatory school of the Holy City, while Master Peter Spiegel-

berg had been an instructor of drummer boys in the Swiss militia. There is no doubt that their pedagogical experiences, trials and tribulations had added additional glue to the peculiar partnership.

However, with all these attainments from basket making to drilling drummer boys and from propounding Latin to playing sweet adagios, their larder was frequently as empty as that of Old Mother Hubbard. One day when the store of provisions had reached the lowest of the low water marks Signor Giglielmo Poveretti had a practical idea, a big plan, and he straightway proceeded to lay it before partner Peter. Said he: "We are living in an age of bold undertakings, even in the fields of education. Let's start something—let's start a great pedagogium, a fresh-air boarding-school for young English lords or sons of American millionaires. We will go at it systematically, advertise the Poveretti-Spiegelberg Institute in the *London Times* and in the *New York Herald* and I'll bet my old violin that we will get all the pupils that we can take care of. They will bring us two thousand francs apiece per summer season, and things will be *parfait d'amour*. We will take care of them somehow, and I know we will do them good."

The plan was discussed in detail and there was no time lost in starting it. It was thought best not to reach America at first, but to depend on England. The advertisements that were sent to London spoke of a "Sunny Home at the foot of the picturesque Jura mountains, overlooking the historic city of Solothurn and in full view of Burgdorf, where Pestalozzi, the father of modern education, had taught and worked." It mentioned the fact that the Pedagogium of Balmholz was presided over by a doctor of law, who had formerly been connected with the court of St. Petersburg, and that the head of the music department had been master musician in the Swiss guards at Napoli. The scheme worked. Letters came from many parts of England asking for more information and, to make a long story short, Signor Giglielmo Poveretti, dressed in a new Prince Albert coat, went to England and brought home with him half a dozen pale-faced, young aristocrats from as many counties beyond London. He also brought a pocket-book full of notes, signed by the president of the Bank of England, that had been given the "distinguished rector" as advance payments for board, instruction, and care of the six disciples.

This success brought new life into the old farmhouse. The "professors" bought store suits and had their shoes mended. The broken window-panes were repaired, and the whole institution was scrubbed and reformed. An old woman was hired to do



the cooking and take care of the bunks, and several additional goats were bought to furnish the needed milk. Fortunately it was in the spring of the year when this happened so that the improvised beds needed but little covering. The boys, when they arrived, looked at the "great pedagogium" with youthful amazement, but they were treated with kindness, given the freedom of the wild woods and of a big swimming hole down the creek, and told that they could amuse themselves and have as good a time as they pleased. They were fed with pumpernickel, vegetable soups, and all the sweet, fresh goat milk that they could hold, and last, but not least, they were allowed to go barefooted, a privilege that they had never enjoyed before. In forty-eight hours after their arrival they felt like pigs in the clover and were completely reconciled to the new order of things. They were royally happy.

Nor did Signor Giglielmo Poveretti neglect the work of the schoolmaster. In the forenoon he gave them a good, long lesson in French, and after a rompy recess a similar lesson in German. In the evening they all sat down together on the bench in front of the cabin and fiddled. Of course, they were a little homesick at times, but that wore off and when Papa Peter—this is what they called him—taught them to angle trout, trap minks, climb trees, hunt birds' nests and make baskets, old England and the ancestral castles were forgotten. They lost their pale color and bronzed up; they grew broad shouldered and became strong; they began to imitate the wonderful adagios of Papa Peter and Rector Poveretti, and everything was lovely. They wrote letters back home saying that they liked it better in Balmholz than they had ever liked it over in Warwick county.

Yet, the good time came to an end. In October, when the leaves began to color and the swimming pool got chilly, the question loomed up what might be done for the winter. The parents of the boys wanted to know if the "Great Boarding School" could keep the disciples still longer. This made Signor Giglielmo Poveretti feel uneasy. He was not a bad man at heart. He had played the parents of the boys a mean trick by misrepresenting his would-be pedagogium and had written for funds as often as he had dared. He had received large checks and had lived well, but he did not want to mistreat the boys, whom he really loved much and who had learned to love and even respect him. He had been something of an anarchist in earlier years down in Italy—a political sooner—but he had loved mankind, liberty and justice better than he did the king and a fat salary. That had robbed him of his home down in old Rome and had soured him, but he had been



sinned against more than he ever wanted to sin against others. He became thoughtful and wrote to the parents of the boys to send him one more big check and he would bring them home—back to old England.

There was no reply for several days, but one sunny afternoon when the atmosphere was drowsy with the sweet fall scent of the young mountain pines a couple of carriages drove up to the portal of "The Great Educational Institute for Aristocratic Young Men" and several of the lordly parents alighted in *natura*. They had somehow found out that Signor Giglielmo Poveretti was not what he pretended to be, and they had come to investigate things. They made a rush for the reception hall where the philosopher was playing variations on his *cremona*, while several of the *mamas* who belonged to the visiting party went down the ravine where they heard the boys shout and where they found them barefooted and kneedeep in the mud. The boys and their mothers recognized each other and there were embraces and tears and loving questions and sobing answers.

Partner Peter Spiegelberg saw what was going on and left hurriedly through the back door. This left the Signor alone with the lords, and for awhile the air was blue with threats, but gradually the storm subsided and the old diplomat had a chance to present his side of the case. He acknowledged frankly that he had not played fair with old England, but maintained also that he had treated the boys well and that the little fellows had received at his hands just what they had needed most—that is, freedom, fresh air, sunshine, spring water, rye bread, and goat milk. He said that he had always watched them closely, given them health, kept them away from the city and from the street, separated them from hollow society and lead them to love nature. He told how he had taught them French and German, violin, climbing and swimming, and wound up by saying that he would leave the verdict with the boys themselves. The boys were called into the room and all corroborated Signor Giglielmo Poveretti's statements, which calmed the situation to some extent. The visitors and their sons left for England, and this ended the career of "The Great Educational Boarding Institute for Aristocratic Boys" at Balmholz.

However, it did not end the story after all. Last summer, when the writer of this returned for a visit to his old College town, he inquired after the Italian Signor and was told that for years the boys seemed to be unable to forget the swimming pool at Balmholz and the joyous summer vacation that they had had in

Switzerland; that small post money-orders regularly found their way to the queer pedagog, and that a dozen years later the Duke of Warwick, or some other duke, invited the aging Italian to come over to England and spend the declining years with the young man in the ancestral castle—an offer that was accepted.

The story told here is as true as an outsider can tell it, and there is also a lesson to it—a lesson that many a city parent might take to heart. There is danger that next summer thousands of pale-faced boys who spent the past winter in the dusty class room and behind the midnight lamp will not get the country vacation which the aforesaid English lordlets had at Balmholz—a fresh-air vacation with an abundance of sunshine, pumpernickel, goat milk, and sweet adagios.

---

## A Menace to the Public Welfare.

Jos. A. Arnold, editor and chief of the division of publications, United States Department of Agriculture, under date of April 28, writes as follows regarding the alarming extent to which habit-forming drugs are used and the various channels through which they reach the public:

In its effort to protect the innocent public against the insidious effects of preparations containing drugs injurious to health, the United States Department of Agriculture has issued another Farmers' Bulletin treating on the subject so nearly connected with public health.

Farmers' Bulletin No. 377, The Harmfulness of Headache Mixtures, was issued in September, 1909, and 70,000 copies have been distributed to those interested in the subject; now Farmers' Bulletin No. 393, Habit-Forming Agents: Their Indiscriminate Sale and Use a Menace to the Public Welfare, giving the results of recent investigations by the Department, has just been issued as a warning to mothers, invalids, and users of medicated soft drinks, of the dangerous contents of many of the infant syrups, so-called remedies, and soft drinks containing cocain, caffen, etc.

It is almost unbelievable that any one, for the sake of a few dollars, would concoct for infant use a pernicious mixture containing cocain, but several such mixtures have been found and their names published, together with a list of remedies intended for infants and containing morphine, codein, opium, cannabis indica, heroin, which are widely advertised, and are accompanied by the assertion that they "contain nothing injurious to the youngest babe," and that "mothers need not fear giving them, as no bad



effects come from their continued use," while as a matter of fact numerous instances are on record of babies being put to sleep never to wake again, or, where they did not succumb, the more serious effect of infant drug addiction was produced.

Yet the majority of mothers, ignorant of these facts, continue the use of these poisons which at least must undoubtedly leave their impression on the delicate organisms of infants and induce tendencies which may develop into the evil habit of drug addiction.

The bulletin contains a list with a photograph of the "original packages" of some of the soft drinks containing caffein and cola leaf extracts, to which it is not uncommon to find persons addicted. It also mentions some of the harmful nostrums advertised as cures for asthma, catarrh, cold, coughs, consumption, epilepsy, and the tobacco habit, and states that some physicians in their prescriptions in treating these diseases and in attempting to cure the "drug habit" itself often prescribed the very remedies that have produced the conditions which it is proposed to relieve.

This bulletin can be secured by writing to the Secretary of Agriculture, Washington, D. C., to any Senator, Representative, or Delegate in Congress, or it can be purchased from the Superintendent of Documents, Government Printing-office, Washington, D. C., at five cents per copy.

---

## **Campaign for Beautifying Kansas.**

The Agricultural College has been engaged for almost half a century in assisting the farmers of Kansas to make two ears of corn grow where one grew before. It seems appropriate now that it should undertake another campaign primarily for the towns and cities of Kansas, helping the people to make two blades of grass grow where one grew before and to make a hundred flowers bloom where one blossomed before. Beginning April 11 a campaign was started that ended on April 27 that bids fair to be the beginning of a great movement. Prof. H. D. Hemenway of Massachusetts, who has done a wonderful work throughout New England in the matter of beautifying towns, was engaged to help for two weeks in this work in Kansas. The campaign began on April 11, and during that week special meetings were held at Girard, Columbus, Parsons, Newton, Winfield, and Herington. Monday, April 18, was spent in Emporia, Tuesday and Wednesday in Topeka, Thursday Hiawatha, Friday at Seneca; Monday and Tuesday, April 25 and 26, were given to Wichita, and the cam-



paign closed at Olathe on April 27. The morning hours at all places were spent in visiting the schools, where talks were made to the children on the possibilities of the children's home gardens and upon the growing of flowers and vegetables. In the afternoon at each place a stereopticon lecture was given to the children, followed by an illustrated lecture to parents and others, and in all but two or three towns a new organization was established known as "The City Beautiful League of ———." Organizations were formed where a similar organization had not already been in existence. It is expected that delegates from these leagues will attend the State Institute here in Manhattan next winter, when a State organization will be perfected.

---

### **Alfalfa Farming in the East.**

Alfalfa Farming in America, Joseph E. Wing; Saunders Publishing Co., Chicago: The treatment of the subject applies particularly to the Middle and Eastern States and many of the suggestions and methods of practice given would not apply well to Western alfalfa culture. The book is full of suggestions and facts, and is written in a happy and entertaining manner characteristic of the author. Hopkins, in his recent book on soil fertility, writes: "Technical books are to be studied; they are not written for entertainment." But Mr. Wing's book is both instructive and entertaining to the farmer or student who is interested in alfalfa, the "Cinderella of Crops." For a technical book the introduction and history are rather too lengthy, but nevertheless entertaining. Mr. Wing's book is the only book on alfalfa which treats the subject from the Eastern standpoint. It is a valuable treatise on the subject and should have an extensive sale in the Eastern and Central States. —A. M. Ten Eyck, *Professor of Agronomy.*

---

### **A Professor of Rural Education.**

The Board of Regents at their last meeting elected Prof. E. L. Holton, graduate student of Columbia University, to a position in the Extension Department, and his title will be Professor of Rural Education. Mr. Holton comes to the College with excellent training and with excellent experience. He is a graduate of the Indiana State Normal School, and later of Indiana State University; taught for several years in country and village schools in Indiana, later was superintendent of schools at Holton, Kan., for

three years, then superintendent of schools at Noblesville, Ind., for two years. In Columbia University during the past year he has been studying on matters pertaining to vocational education and at the same time has been superintendent of the industrial work of nine large schools in and about New York City—schools under the control of the New York Children's Aid Society. Mr. Holton reported for service April 15 and immediately took charge of the "Children's Garden Campaign" which Prof. H. D. Hemenway, of Massachusetts, was brought out to inaugurate. Mr. Holton's work here will include the visiting of town and village high schools, assisting in the introduction of agriculture, manual training, and domestic science. He will have charge of the boys' corn contests, boys' meetings, etc.; and will also have the management of the correspondence courses of the College to be offered next fall.

---

### **Soil Fertility and Permanent Agriculture.**

Soil Fertility and Permanent Agriculture is the title of a new book on soil fertility recently written by Dr. Cyril G. Hopkins, professor of agronomy in the University of Illinois and vice-director of the Illinois Agricultural Experiment Station. Doctor Hopkins is well known in this country as an investigator in soil fertility, and the publication of this book has given him an opportunity to express his theories and the results of his investigations along this line. This book is a work of some 640 pages, divided into four parts. Part I, entitled "Science and Soil," treats of soil formation, classification, and composition; the crop requirements for plant food; and the sources of plant food. Part II treats of the theories concerning soil fertility and systems of maintaining soil fertility. Part III is a discussion of soil investigations by culture experiments, and discusses the results of the field work conducted at Rothamsted, Pennsylvania, Ohio, Illinois, Minnesota and the Canadian Experiment Stations. Part IV is a discussion of various fertility factors, as barnyard manures, commercial fertilizers, etc. The book emphasizes strongly Doctor Hopkins' idea of the necessity of maintaining the supply of phosphorus in most of our prairie soils by applications of phosphatic material. While this work may go too much into detail on points that might be considered by some as of minor importance, it is, nevertheless, one of the best books upon the subject, and will prove a valuable addition to the library of any student of agriculture. The book is published by Ginn & Co., New York, N. Y.—*L. E. Call, Assistant Professor of Soils.*



## A New Book on Soil Fertility.

One of the most carefully prepared books on the subject of soil fertility has come from press within the past six months. This is an English work entitled "Fertilizers and Manures," published by E. P. Dutton & Co., New York City, New York, and written by A. D. Hall, director of the Rothamsted Experiment Station in England. Doctor Hall is an English agricultural teacher and investigator of marked scientific ability, a classical scholar, and a pleasing writer. Agricultural students will recall Doctor Hall as the author of two other books that have met with extensive sale in this country: "The Soil," and "The Book of Rothamsted Experiments." In preparing "Fertilizers and Manures" Doctor Hall has drawn mainly upon the results of the field work in soil fertility at the Rothamsted Station, where definite systems of crop rotation and fertilization have been practiced since 1843. The clear, concise manner in which the author has stated the principles underlying the subject of soil fertility, backed by the evidence of nearly three-quarters of a century of the most carefully conducted experimental work, make this book one of the best works on the subject in the English language. Students of soils will find this book of great practical value.—*L. E. Call, Assistant Professor of Soils.*

---

Miss Frances L. Brown, of the Extension Department, and Miss Ula Dow, assistant professor of domestic science of the College, make fine reports of the movable schools held so far. Miss Brown and Miss Dow conducted the first one together at Beloit during the week beginning April 4. Then Miss Brown and Miss Minnie Forceman were at Osage City for the week beginning April 11, and Miss Dow and Miss Alice Skinner at Cawker City. The next week Miss Brown and Miss Forceman were at Burlington, and Miss Dow and Miss Skinner at Kirwin. During the week of April 25 Miss Dow and Miss Skinner held a school in Phillipsburg, while Miss Brown had a special woman's meeting at Frankfort on April 26 and attended the meeting of the State Federation of Women's Clubs at Abilene on April 27 and 28. This week Miss Brown and Miss Forceman are at Harper, next week at Howard, then at Fredonia, and closing their work at Yates Center on May 28. Miss Dow and Miss Skinner were at Minneapolis for the week beginning May 2, the next week at Hays, then at Sterling, then Hiawatha, and then Liberal, ending their work there on Saturday, June 4.

---



## Local Notes.

Prof. J. E. Kammeyer will deliver the annual address at the high school commencement at Scranton, Kan., May 20.

The parents of Miss Ella Weeks, of the Department of Architecture and Drawing, who had resided for over a quarter of a century at Lincoln, Kan., have recently moved to Florida.

Instructor Theo. H. Scheffer, of the Department of Zoölogy, has completed the manuscript for an Experiment Station Bulletin giving the results of his extended research on the habits and economic status of the mole.

Last week Professor Kendall received three requests for men to fill positions in dairy husbandry work. One was from the Helvetia Milk Condensing Co., Mulvane, Kan., and one from the New Mexico State Agricultural College.

W. M. Jardine, agronomist in charge of dry-land grain investigations for the United States Department of Agriculture, was a visitor at the College Tuesday and Wednesday to look over the work of the Agronomy Department.

Miss Frances L. Brown, of the Extension Department, attended the annual meeting of the State Federation of Women's Clubs at Abilene on April 27 and 28 and gave a talk on "Home Economics for Club Women." She reports the club women as keenly interested in the home-economics movement.

Professor Osborne, of the department of entomology of Ohio State University, visited College last week. He was much interested in the work of our Entomological Department. All the more perhaps because two of its assistants, Mr. J. B. Parker and Mr. H. Evans, had been students under him at Columbus, O.

Mr. E. L. Morris, in charge of the grain standardizing laboratories for the United States Department of Agriculture, located at Kansas City, Mo., has been visiting the College this week to arrange with Prof. L. A. Fitz for some coöperative work in connection with the Division of Milling Industry in regard to grain investigations in Kansas. Mr. C. H. Bailey, of Fargo, N. D., also connected with the office of grain standardization, has visited the College this week and has been assisting Professor Fitz in finishing some of the work that he had under way before he came to Manhattan.

Mr. C. H. Hinman, of the Extension Department, was engaged last week in building a thin wall cement metal-lath silo for Mr. W. S. Jones, a farmer living near Linwood. This is the type of silo that Professor Kendall built at the College last year, and about thirty will be built in the State this summer under the supervision of the College on plans made by Professor Kendall. Mr. Hinman and Mr. Geo. C. Wheeler are both at Tonganoxie at present, where three silos are being built. The College furnishes the expert supervision, the farmer simply paying the railroad fare and boarding the College representative while the work is in progress.

The College Y. M. C. A. will give their sixteenth annual banquet at the gymnasium hall, May 12. Regent Tom Blodgett will be the principal speaker and President Waters will act as toastmaster. The association is planning to set 450 plates. A fee of 25 cents will be charged for places at the festive board.

Miss Frances L. Brown, of the Extension Department, attended a special meeting of women's clubs at Frankfort on April 26 and gave an address. About seventy-five women were in attendance and great interest was shown in the domestic science work of the College. Miss Brown was royally entertained by the people of Frankfort. She was the guest of honor at a six-o'clock dinner at the home of Mr. and Mrs. Howard Reid, followed by a reception at the home of Hon. Jas. S. Rhodes.

The Farmers' Institute Department, in coöperation with the Fort Hays Branch Experiment Station officials, has called a meeting of farmers of the western half of the State, to be held at the Fort Hays Station, June 7 and 8. The purpose of this meeting is to demonstrate to the farmers of western Kansas the work done at that Station. Very few people who have not visited the Station at Hays have any conception of the magnitude of the scope of the work now being undertaken, and it is hoped that every county and local farmers' institute in western Kansas will have a delegate at this meeting. The Hays City Commercial Club is arranging for accommodations for all visitors.

Prof. V. M. Shoesmith, formerly assistant in the Agronomy Department of this College and at present professor of agronomy at the Michigan Agricultural College, has recently published a book on "The Study of Corn." The *Breeders' Special*, of Kansas City, speaks of it in the following handsome way: "A most helpful book to all farmers and students interested in the selection and improvement of corn. Just the thing for the individual farmer, for corn schools, farmers' institutions, and corn improvement associations. It is profusely illustrated from photographs, all of which carry their own story and contribute their part in making pictures and text matter a clear, concise and interesting study of corn."

The INDUSTRIALIST has been so busy with other things this spring that it has completely neglected to publish the long list of glorious victories of the College baseball team. During the month of April the "Aggies" played nine public games and came out victorious in every one of them. The games and dates were as follows: April 2, Nebraska Wesleyan University; April 5, Hays City Normal School; April 13, Nebraska State University; April 14, Nebraska State University; April 16, Missouri Valley College; April 23, Kansas Wesleyan University; April 25, Manhattan League Team; April 27, Ottawa University; April 29, Kansas State Normal School. All but one of these games were played with College teams and in most games our boys made about double the number of points of their opponents. Not a game was lost in April.



The cow-peas, of which a large amount will be planted in the College demonstration farms, are yet to be planted, as well as the greater part of the cane and Kafir-corn. Professor Crabtree thinks the New Era variety of cow-peas the most profitable, being the earliest to mature and standing up best for harvesting. There will be experiments with this variety on nine different farms in eastern Kansas this season.

The planting work on the College demonstration farms in the eastern end of the State is about three-fourths completed. The oats are everywhere looking fine. The Kherson variety is the only one planted this year. So far the Canada field pea is looking well, but it requires a little more time yet to show whether it will produce the root nodules for which purpose it has been introduced by the College. The seed-corn fields are producing a very fine stand. Quite an advantage is shown by use of the furrow opener. This season has been an especially good one for demonstrating the use of this implement, because the weather has been unusually dry and much of the ground very cloddy, making it especially desirable to get down into fine, moist earth—the purpose for which the furrow opener is used. One more week will be required to complete the corn planting.

The call for funds for the purpose of constructing a permanent and up-to-date athletic field on the College campus, as explained in the last number of the INDUSTRIALIST, is meeting with much encouragement. Contributions are already coming in. Pres. H. J. Waters, who has been elected treasurer of the fund, reports that during the week ending Friday, May 6, \$52.50 was received. It is intended to publish the names of the contributors and the total amount contributed from week to week in the INDUSTRIALIST. The Dramatic Association of the College has announced that it will turn the proceeds of their annual play, amounting to nearly \$100, over to the fund, and the week before Commencement there will be a Senior-Faculty baseball game, the proceeds of which will also go to the new field. The good work has been started—now, let it go on. If all help, we will have the finest athletic field in the State.

The *Topeka Capital* of Thursday, May 5, contained a very interesting article written from Phillipsburg relative to the "Movable School in Home Economics" held there last week by Miss Ula Dow, assistant professor of domestic science, and Miss Alice Skinner, of the class '09. Twenty-two women and girls composed the cooking and sewing classes. The morning hours were spent in the cooking lesson and in the afternoon there was a sewing lesson. There was interest throughout the week, and a letter has come from Phillipsburg asking to have another "school" there next fall. Phillipsburg has a Domestic Science Club with more than forty members, and this club will carry on special work during the next year, following the lessons to be sent out by the College. Miss Dow and Miss Skinner were at Minneapolis last week, and they will have a school at Hays during the week beginning May 9.



## Board of Instruction (concluded from second page).

## INSTRUCTORS (Concluded).

William L. House.....Instructor in Woodwork, Foreman of Carpenter Shop  
 Louis Wabnitz.....Instructor in Machine Tool Work, Foreman of Machine Shop  
 Ambrose E. Ridenour, B. S. (K. S. A. C.).....Instructor in Moulding, Foreman of Foundry  
 J. H. Hollar.....Instructor in Forging, Foreman of Blacksmith Shop

## ASSISTANTS.

Miss Ina E. Holroyd, B. S. (K. S. A. C.), (K. S. N.).....Assistant in Mathematics  
 Miss Kate Tinkey.....Assistant Librarian  
 Earl N. Rodell, B. S. (K. S. A. C.).....Assistant in Printing  
 Chas. Yost.....Assistant in Heat and Power Department  
 Earle B. Millard.....Assistant in Machine Shops  
 J. T. Parker.....Assistant in Woodwork  
 E. G. Meinzer, M. A. (Olivet College).....Assistant in German  
 Hugh Oliver.....Assistant in Heat and Power Department  
 Miss Charlene Furley, B. A. (Fairmount College).....Assistant in English  
 Miss Jessie Reynolds, A. B. (University of Kansas).....Assistant in History  
 William C. Lane, B. S. (K. S. A. C.).....Assistant in Electrical Engineering  
 Miss Flora C. Knight, A. B. (University of Wyoming).....Assistant in English  
 Miss Grace H. Woodward (Boston School of Domestic Science).....Asst. in Domestic Science  
 Miss Margaret A. Mack (Kansas State Normal School).....Assistant in History  
 S. W. McGarrah, M. A. (Grove City College).....Assistant in Mathematics  
 C. A. Arthur Utt, M. S. (Cornell College).....Assistant in Chemistry  
 Miss Florence Warner, A. B. (University of Illinois).....Assistant Librarian  
 Miss Anna Gordon, A. B. (Iowa College).....Assistant in History  
 Miss Bertha M. Johnston (Simmons College).....Assistant in Domestic Science  
 Harrison E. Porter, B. S. (K. S. A. C.).....Assistant in Mathematics  
 J. B. Parker, M. A. (Ohio State University).....Assistant in Entomology  
 Allen G. Phillips, B. S. (K. S. A. C.).....Assistant in Poultry  
 Miss Gertrude Cannon (Bethany College) (Oberlin Conservatory).....Assistant in Music  
 Miss Bertha Bisby.....Assistant in Mathematics  
 Fred M. Hayes, D. V. M. (K. S. A. C.).....Assistant in Veterinary Science  
 Miss Bertha Donaldson (University of Chicago).....Assistant in Domestic Art  
 Miss Elizabeth Putnam (Chicago Art Institute).....Assistant in Drawing  
 L. E. Petty, A. B. (Wabash College).....Assistant in Mathematics  
 Jules C. Cunningham, B. S. (K. S. A. C.).....Assistant in Horticulture  
 Miss Annie E. Lindsey (Simmons College).....Assistant in Domestic Science  
 Miss Amy Allen, B. S. (K. S. A. C.).....Assistant in Printing  
 John E. Smith, B. S. (Oregon Agricultural College).....Assistant in Botany  
 R. C. Wiley, B. S. (Oklahoma A. & M. College).....Assistant in Chemistry  
 Porter J. Newman, B. S. (Franklin College).....Assistant in Chemistry  
 C. E. Griffin, M. S. (University of Michigan).....Assistant in Chemistry  
 C. W. Nash, B. S. (Iowa State College).....Assistant in Crops  
 Chas. Doryland, B. S. (K. S. A. C.).....Assistant in Soils  
 R. C. Thompson, B. S. (K. S. A. C.).....Assistant in Chemistry  
 R. H. Wilson, D. V. M. (K. S. A. C.).....Assistant in Bacteriology  
 Miss Helen Huse, B. S. (K. S. A. C.).....Assistant in Domestic Science  
 E. F. Kubin, D. V. M. (K. S. A. C.).....Assistant in Veterinary Science  
 B. S. Orr, B. S. (K. S. A. C.).....Assistant in Mechanical Engineering  
 Elmer Johnson, B. S. (K. S. A. C.).....Assistant in Mechanical Engineering  
 A. B. Nystrom, B. S. (K. S. A. C.).....Assistant in Dairy Husbandry  
 A. Miyawaki, M. S. (K. S. A. C.).....Assistant in Experimental Dairying  
 Geo. C. Wheeler, B. S. (K. S. A. C.).....Farm Management, Farmers' Institute Department  
 C. V. Holsinger, B. S. (K. S. A. C.).....Horticulture, Farmers' Institute Department  
 P. E. Crabtree.....Farm Management, Farmers' Institute Department  
 Miss Frances L. Brown, B. S. (K. S. A. C.).....Domestic Science, Farmers' Institute Department  
 C. H. Hinman, A. B. (University of Nebraska).....Dairying, Farmers' Institute Department  
 W. S. Gearhart, B. S. in C. E. (University of Missouri).....Highway Engr., Farmers' Inst. Dept.  
 E. L. Holton, A. B. (University of Indiana).....Rural Education, Farmers' Institute Department  
 Miss Ethel Byerly, (Drexel Institute).....Assistant in Domestic Art  
 T. G. Patterson, B. S. (University of Minnesota).....Assistant in Animal Husbandry  
 Mrs. Jessie Gulick.....Assistant in Library  
 Miss Mary Mudge, B. S. (K. S. A. C.).....Assistant in Library  
 Miss Estella M. Boot, M. A. (Northwestern University).....Assistant in English  
 J. R. Jenness, B. S. (Denison College).....Assistant in Physics  
 Harry Evans, B. S. (Ohio State University).....Assistant in Entomology  
 Miss Ada Baum (Chicago Musical College).....Assistant in Music  
 Miss Ethel K. M. Ping (Sherwood Music School).....Assistant in Music  
 E. P. Johnston, A. B. (Oberlin College) (Emerson Coll. of Oratory).....Asst. in Public Speaking  
 Dean H. Rose, M. A. (Washington University, St. Louis).....Assistant in Botany  
 Miss Anna Monroe, B. S. (K. S. A. C.).....Assistant in Botany  
 Miss Madge Kay, B. S. (University of Chicago).....Assistant in Mathematics  
 C. A. Jackson, B. S. (Purdue University).....Assistant in Mathematics  
 D. O. Stone, C. E. (Cornell University).....Assistant in Civil Engineering  
 Paul W. Graff, B. S. (Connecticut Agricultural College).....Assistant in Botany  
 T. R. H. Wright, B. S. A. (University of Missouri).....Assistant in Animal Husbandry  
 L. A. Chase.....Assistant in History  
 Henry Wagner.....Assistant in Heat and Power  
 A. E. White, M. S. (Purdue University).....Assistant in Mathematics  
 H. W. Edson, A. M. (Harvard University).....Assistant in English  
 M. R. Bowerman, B. S. (Michigan Agricultural College).....Assistant in Mechanical Engineering  
 Frank C. Harris, B. S. (K. S. A. C.).....Assistant in Architecture and Drawing  
 Geo. A. Westphalinger.....Band Leader  
 Wm. A. Lamb.....Superintendent of Poultry Plant  
 Floyd Howard.....Farm Foreman

# THE INDUSTRIALIST

Vol. 36

Saturday, May 14, 1910

No. 27

*Issued Weekly By*  
**Kansas State Agricultural College**  
*Manhattan, Kansas*



~~~~~  
Published by
PRINTING DEPARTMENT
J. D. Rickman, Supt.

Entered at post-office, Manhattan, Kan., as second-class matter. Act of July 16, 1894

THE INDUSTRIALIST.

PRES. H. J. WATERS.....	Editor-in-Chief
DR. J. D. WALTERS.....	Local Editor
DR. J. T. WILLARD.....	Alumni Editor

BOARD OF REGENTS.

HON. W. E. BLACKBURN, President.....	Anthony
HON. J. O. TULLOSS ['99], Vice-President.....	Sedan
HON. EDWIN TAYLOR.....	Edwardsville
HON. ARTHUR CAPPER.....	Topeka
HON. A. L. SPONSER.....	Hutchinson
HON. TOM BLODGETT.....	Wichita
PRES. H. J. WATERS, Secretary <i>ex-officio</i>	Manhattan

BOARD OF INSTRUCTION

FACULTY.

HENRY J. WATERS, B. S. A. (University of Missouri).....	President
ED. H. WEBSTER, B. S. A. (Ia. S. C.), M. S. (K. S. A. C.).....	Director Exp. Sta., Dean of Agriculture
JOHN D. WALTERS, D. A. (K. S. A. C.).....	Professor of Architecture and Drawing
JULIUS T. WILLARD, D. Sc. (K. S. A. C.), Prof. of Chem., V.....	Director Exp. Sta., Dean of Science
BENJ. L. REMICK, Ph. M. (Cornell College).....	Professor of Mathematics
BENJ. F. EYER, E. E. (Armour Institute of Technology).....	Prof. of Electrical Engineering
HERBERT F. ROBERTS, M. S. (K. S. A. C.).....	Professor of Botany
WILLIAM A. MCKEEVER, Ph. M. (University of Chicago).....	Professor of Philosophy
EDMUND B. MCCORMICK, S. B. (Mass. Inst. of Tech.).....	Prof. of Mech. Eng., Dean of Mech. Arts
ALBERT DICKENS, M. S. (K. S. A. C.).....	Professor of Horticulture, Supt. of Grounds
CLARK M. BRINK, Ph.D. (U. of City of N. Y.).....	Prof. of English, Dean of the Coll., Asst. to Pres.
ALBERT M. TEN EYCK, B. Agr. (University of Wisconsin).....	Prof. of Agronomy, Supt. of Farm
RALPH R. PRICE, M. A. (University of Kansas).....	Professor of History and Civics
JULIUS E. KAMMEYER, M. A. (Central Wesleyan College).....	Professor of Economics
JOHN V. CORTELYOU, Ph. D. (Heidelberg).....	Professor of German
OLOF VALLEY, B. M. (Chicago Conservatory).....	Professor of Music
F. S. SCHOENLEBER, D. V. S. (Chicago Vet. College).....	Professor of Veterinary Science
ROLAND J. KINZER, B. S. A. (Iowa State College).....	Professor of Animal Husbandry
WALTER E. KING, M. S. (Cornell University).....	Professor of Bacteriology
THOMAS J. HEADLEE, Ph. D. (Cornell University).....	Professor of Entomology
CHAS. H. BOICE, First Lieutenant Seventh Cavalry, U. S. A.....	Professor of Military Science
JOHN C. KENDALL, B. S. (New Hampshire A. & M. College).....	Professor of Dairy Husbandry
JOHN O. HAMILTON, B. S. (University of Chicago).....	Professor of Physics
MRS. MARY P. VANZILE, (Iowa State College).....	Prof. of Domestic Science, Dean of Women
JOSHUA D. RICKMAN.....	Superintendent of Printing
MISS MARGUERITE E. BARBOUR (Sargent Nor. Sch. Phys. Tr.).....	Director of Physical Training
MISS ANTONETTA BECKER (Drexel Institute).....	Professor of Domestic Art
MISS GERTRUDE BARNES.....	Librarian
LOWELL E. CONRAD, M. S. (Lehigh University).....	Professor of Civil Engineering
JOHN H. MILLER, M. A.....	Superintendent Farmers' Institutes
MISS MARGARET BUTTERFIELD.....	Secretary
WILLIAM R. LEWIS.....	Custodian

ASSISTANT PROFESSORS.

JACOB LUND, M. S. (K. S. A. C.).....	Superintendent Heat and Power Department
ANDREY A. POTTER, S. B. (Mass. Inst. of Tech.).....	Asst. Professor of Mechanical Engineering
ROBERT H. BROWN, B. M. (Kan. Con. of Music), B. S. (K. S. A. C.).....	Asst. Professor of Music
GEO. A. DEAN, M. S. (K. S. A. C.).....	Assistant Professor of Entomology
WILLIAM H. ANDREWS, A. B. (University of Chicago).....	Assistant Professor of Mathematics
ROBERT E. EASTMAN, M. S. (Cornell University).....	Assistant Professor of Forestry
LELAND E. CALL, B. S. (Ohio State University).....	Assistant Professor of Soils
ROY A. SEATON, B. S. (K. S. A. C.).....	Assistant Professor of Mechanical Engineering
LEONARD W. GOSS, D. V. M. (Ohio State University).....	Asst. Professor of Veterinary Science
GEO. E. BRAY, M. E. (University of Minnesota).....	Asst. Prof. Mech. Engineering, Supt. of Shops
MISS ULA M. DOW, B. S. (K. S. A. C.).....	Assistant Professor of Domestic Science
H. H. KING, M. A. (Ewing College).....	Assistant Professor of Chemistry
JOHN B. WHELAN, M. A. (University of Nebraska).....	Assistant Professor of Chemistry
C. O. SWANSON, M. Agr. (University of Minnesota).....	Asst. Prof. of Agricultural Chemistry
ROBT. J. BARNETT, B. S. (K. S. A. C.).....	Assistant Professor of Mathematics
LOUIS H. BEALL, A. B. (Denison College).....	Assistant Professor of English
WILMER E. DAVIS, M. S. (University of Illinois).....	Assistant Professor of Botany
F. G. KING, B. S. A. (University of Missouri).....	Assistant Professor of Animal Husbandry
K. W. STODDER, D. V. M. (Iowa State College).....	Assistant Professor of Veterinary Science

INSTRUCTORS.

Miss Ada Rice, B. S. (K. S. A. C.).....	Instructor in English
Miss Ella Weeks, A. B. (University of Kansas).....	Instructor in Drawing
Miss Daisy Zeininger, B. A. (Fairmount College).....	Instructor in Mathematics
Theo. H. Scheffer, M. A. (Cornell University).....	Instructor in Zoölogy
L. D. Bushnell, B. S. (University of Michigan).....	Instructor in Bacteriology
M. Francis Ahearn, B. S. (Massachusetts Agricultural College).....	Instructor in Horticulture
Burton Rogers, D. V. M. (Iowa State College).....	Instructor in Veterinary Science
Kirk H. Logan, B. S. (University of Kansas).....	Instructor in Physics
Miss Clara Willis (Framingham Normal Institute).....	Instructor in Domestic Science
Miss Ina Cowles, B. S. (K. S. A. C.).....	Instructor in Domestic Art
Miss Gertrude Stump, B. S. (K. S. A. C.).....	Instructor in Domestic Art
Miss Annette Leonard, A. B. (University of Kansas).....	Instructor in English

(Board of Instruction concluded on last page.)

THE INDUSTRIALIST

VOL. 36.

MANHATTAN, KAN., MAY 14, 1910.

No. 27

Rural Telephony.

Kirk H. Logan, Instructor in Physics.

The use of the telephone has become so prevalent among the farmers of some sections of the country, and indeed in many localities of our own State, and this use has proven so satisfactory wherever telephones have been properly installed that it seems probable that only the lack of information as to the cost and operation of telephone lines and what, for the sake of euphony, may be termed the conservatism of certain classes, prevent other localities from enjoying the same advantage.

The telephone is essentially a time- and labor-saving machine, and it should be regarded solely as such. Its value to a man is proportional to the value of his time, and in most cases the greater the distance of the farmer from his neighbors and from town the greater is his need for the telephone. It will quickly pay for its installation in money which its use has saved wherever its owner is able to take advantage of the fluctuations of the market, either as a producer or as a purchaser. It brings its users as close to each other as are the neighbors in a town. The doctor is always within hailing distance, and help is readily summoned in case of fire or robbery. As an instrument of social intercourse it destroys that isolation which so often makes farm life unbearable for the younger generation, because their friends may be conversed with regardless of the condition of the roads or the weather. What these advantages are worth is probably never realized except by the man who finds himself without a telephone after he has become accustomed to do a large part of his business and to arrange for many of his social engagements over the wire.

The cost, however, is less difficult to determine, though like that of any other labor-saving device it will vary somewhat with the locality and the kind of service desired. After installation, the cost of maintenance will compare very favorably with that of any farm implement of anything like the same value.

Telephone service may be obtained in two ways—from a telephone company organized as a business enterprise, or by means

of a mutual organization, the purpose of which is to secure for its members telephone service as cheaply as is compatible with satisfactory operation. The first kind of service is usually the more satisfactory, because it is maintained by men devoting their entire attention to it and especially trained for such work. The subscriber pays for the service by the month, has no money invested and no responsibility.

There are many places, however, where the number of people who can be economically served by one telephone system is not large enough to furnish a revenue which will pay the employees of a company and leave a fair profit on the capital invested. It may also happen that a local company already organized does not think it would be profitable for it to extend its lines to some of the more remote localities, or on account of the service it renders its charges may be higher than the farmers of a certain neighborhood care to pay.

None of these conditions necessarily indicate that telephone service cannot be made a paying investment for those who desire it. When service cannot be secured from a company already organized, a mutual company may be formed. Indeed, mutual companies are very largely responsible for the wide use of the telephone to-day. The people of the neighborhood desiring service form a company and apportion the cost of the telephone system among themselves, selecting apparatus best suited to their needs. The apparatus required may be separated into three classes: a central office switchboard for interconnecting different lines, the pole line, and the subscribers' apparatus, or telephone proper. When fewer than twenty telephones are to be used and their owners are not too exacting as to the quality of the service, no switchboard is required. All of the instruments are permanently connected to the line and the party desired is called by a combination of rings agreed upon as his signal. This is known as code ringing. All the bells in the line ring each time a party is called, but each party has a different calling signal. This very greatly reduces the cost of telephone service, but the frequent ringing of the bells is more or less annoying to many. When but a few lines are to be served the switchboard is inexpensive and easily operated, and it is customary to install it in a home where some one is always within hearing distance of the board. Usually it is possible to find some one who will care for the board for the use of a telephone.

The simplest form of a telephone line, and one not to be recommended if anything better may be had, uses the wire fences

for the line wire, carrying a wire over gates and roads on poles. One terminal of the telephone is connected to the wire and the other to a metal plate buried so deeply in the ground that the earth around it is moist at all times. Connection with moist earth is essential. For this reason, if it is possible to connect with an iron pump or to bury the ground connection in a stream which does not go dry, it should be done. If but a few telephones are connected and the line is not more than two or three miles long, satisfactory service may be had in dry weather so long as the wire remains intact and free from contact with weeds or brush. However, if the posts are green or if they have become moist through long continued damp weather, it will be found difficult to signal over the line, because much of the ringing current will flow to ground by way of the posts instead of passing through the ringers. Since this loss is due to the absorption of water by the posts, anything which will keep them dry will render the service more satisfactory. Line leakage can be lessened if after the posts are thoroughly seasoned the tops are pointed so as to shed the water, the face which touches the line wire smoothed, and the upper part of the post given a heavy coat of paint to a distance of six inches below the wire which is to carry the current. Sufficient paint should be applied to fill the cracks and render the upper part of the post weather-proof. Frequent attempts have been made to diminish leakage by the use of porcelain knobs for supporting the wire. The knobs are so small that in damp weather they become covered with a film of water, which renders them almost valueless.

A much more satisfactory method of construction, and one which amply justifies the additional expense when a number of instruments are connected, consists of supporting a single conductor on poles by means of glass insulators and the use of the ground as a return circuit as before. This is the usual form for farmers' lines in many localities. The conductor used is usually No. 12 best telephone wire. While this is considerably more expensive than fence wire, the increased conductivity and durability of the telephone wire is so great that the cheaper material is not to be considered. If poles may be obtained from the trees along the banks of a stream in the neighborhood and the labor of erecting the line apportioned among those whom it will serve, the cost of line construction may be reduced to about \$10.00 per mile, this being approximately the cost of the wire, insulators, brackets and nails required for a mile of line. Any tree which will make good posts will do for a pole if straight and of sufficient length. The bark should

be removed and the tops pointed to shed water. The poles should be about twenty feet long and four inches in diameter at the top. They are set four feet in the ground, thirty to the mile. The line should be as straight as possible, and the poles guyed at each deviation from a straight line. Trees along the line should be trimmed till no branch is within a foot of the wire. If poles are purchased from lumbermen and the construction labor hired, the cost per mile of line will be in the neighborhood of \$60, twenty-foot poles with four-inch tops being used. If two grounded lines are strung on the same poles, or if a single grounded line parallels a circuit for the transmission of power or an interurban railway line, the line will be noisy and in the first case the conversations over one line may be heard on the other line. These disturbances, due to induction and to stray currents, cannot be prevented on grounded lines except by the separation of the line from the cause of the trouble. The trouble may be prevented, however, if full metallic circuits are used. This will increase the cost of the line by about \$10 per mile if the wires are supported on brackets. If more than two wires are carried on one pole they should be supported on cross-arms instead of brackets. This will not materially increase the cost of the line.

Induction troubles are prevented by the transposition of the wires of each circuit. The principle involved is simple, but the details of the problem must be worked out for each circuit. The height of the poles should be so selected as to keep the wires in as nearly a straight line as possible in order to secure a uniform distribution of the strain on the wires. Wherever a pole is subjected to an extra strain due to a change in direction of the line, it should be guyed in such a way as to place the extra strain on the guy wire.

The telephone proper consists of two parts—signaling and talking apparatus. The signaling apparatus comprises a magneto generator and a ringer. For lines having several telephones permanently connected, a five-bar generator and a sixteen-hundred ohm bell are usually used. The talking apparatus consists of a transmitter, an induction coil, and a receiver. The complete telephone set may be had from a number of manufacturers at from twelve to sixteen dollars. Usually the decreased number of troubles and better operation more than justify the additional expense of the higher-priced instruments.

Owing to a rather low state of public morals in some localities, lines serving more than two parties are somewhat unsatisfactory because some people on the line think it their privilege, and appar-

ently in some cases their duty, to listen to every conversation which takes place over their line. A public sentiment should be created which would hold listening on lines in the same class with peeping through key holes and opening other people's letters. It must be said, however, that in most localities what one person in the neighborhood knows the others will soon learn in one way or another, and that on the whole the better the community the less the cause for secret conversations.

"Rubbering," as it is called, cannot be prevented without the introduction of a switchboard, and then only at a considerable expense. When too many receivers are in use on a line at one time, it becomes impossible to ring the bells on the line. This trouble may be prevented by placing a condenser in series with each receiver. This does not materially affect the talking properties of the instrument, but it prevents the loss of ringing current in the receivers. When the number of subscribers becomes large enough to require a switchboard of any considerable size, it is possible to so equip the board that when a line does not serve more than eight parties the operator may call one party without ringing the bells of the other parties on the line. This secures some degree of privacy, though of course any one can hear any conversation by removing his receiver from its hook. Such a system is known as selective ringing. It increases the cost of the apparatus and adds somewhat to the troubles of the line, but aside from the advantage mentioned above it eliminates the annoyance of the ringing of the bell each time any one of the parties on the line is wanted. Such systems are quite popular in cities but are seldom installed by mutual companies on account of the expense. Theoretically at least, it is possible to so construct a telephone that but one telephone can be connected to a line at a time. The additional complications and cost have prevented any extended use of the system.

When the organization of a mutual company has been decided upon, almost any information desired regarding the construction and operation of a telephone system may be obtained without cost from the company from which the apparatus is purchased. It is advisable, however, whenever possible, to secure preliminary information as to the kind of apparatus most suitable for the installation from some disinterested party who is qualified to advise in such cases. On the other hand, apparatus having been purchased from a manufacturing company, its engineers will be found to be the best qualified to advise regarding the way to get the best results from their products.

Sufficient apparatus has been secured to give the students some practical experience in the testing and operation of subscriber's and central office equipment, and it is hoped that they will be able to work out some experiments in connection with farmers lines which will be of service to those interested in rural telephony.

A Day in Topeka for K. S. A. C. Printers.

May 9, 1910, will doubtless be a memorable day for the students of the printing course of the Kansas State Agricultural College for years to come. In spite of indications to the contrary, the weather man prepared an ideal day for the occasion, and nine o'clock on that morning found these young people, together with Superintendent Rickman and the instructors and employes of the Printing Department, gathered at the Topeka *Capital* office about to embark upon a tour of inspection of this immense plant and others of Topeka's largest printing houses.

The Capper building, the State printing plant, and the homes of the *State Journal*, Hall Lithograph Co., *The Kansas Farmer*, and H. M. Ives & Sons, were each in turn thoroughly inspected and the details of the various branches explained as fully as time would permit. From the operating of the immense presses, costing as high as \$30,000 each, to the manipulation of the delicate tools used in lithographing, the students feasted their eyes and absorbed as much as possible. The linotype machines, one especially in the Capper building which could cast eight different faces of type without the operator leaving his seat, were thoroughly explained. Then there were the stereotyping and electrotyping department, the photo-engraving department (which reminded us of our chemical laboratory), the mailing department, and the book-binding department. There was the folding machine, the ruling machine, the sewing machine, and even a page-numbering machine.

At the *Journal* office we saw the cartoonist at work and later saw in the evening paper the cartoon upon which he was working. We saw the last form of the *Journal* go to press, and the paper from the great rolls wind its way through this wonderfully constructed machine, which delivered the printed sheet all folded ready for distribution, and at the rate, too, of 300 per minute.

Some of the party visited the Crane printing house and had the pleasure of meeting Mr. E. P. Harris, the walking encyclopædia whose reputation as a proof-reader extends throughout the United States. Here, too, the explanation in detail of the monotype was greatly appreciated.

Through the courtesy of Mr. Capper, we lunched with him in his café, and were honored by having Mr. J. Will Kelley, Mr. Chas. Sessions and Mr. T. A. McNeal as guests. The lunch was indeed thoroughly relished, but no more so than the talks by the distinguished guests which followed. Mr. Capper welcomed us and gave a most interesting talk about his upward climb to the high success that he has attained. Mr. Kelley, Mr. Sessions, and Mr. McNeal followed with experiences of their own lives, praises for the Agricultural College, and words of encouragement setting forth the great opportunities for the young people of to-day who are so fortunate as to have a college education and a printing-office training combined. The talks were an inspiration to the boys and girls and equally as interesting as the inspecting tour of the forenoon. Mr. Rickman and Mr. Weaver in a few words expressed the appreciation of the party for the kindness of all who participated (and especially Mr. Capper) in making the day such a pleasant one.

But Mr. Capper's kindness was not to end here. He escorted the party to the governor's office, where we met that distinguished gentleman and even were invited to view his private office.

As the tired but happy sight-seers journeyed homeward that evening they felt that the benefits derived from the trip were unlimited. The knowledge and inspiration received, together with the mind-broadening influence of the excursion, was something that they felt could not have been gotten in any other way, and the liberal kindness and courtesy in evidence on every hand was stamped indelibly into their lives.—A³.

An interesting departure from the usual methods recommended for farm bookkeeping is to be found in Steiners' "How to Keep Farm Accounts." This text is elementary in its scope, because many farmers, for whom it is published, have not had the opportunity to study formal bookkeeping. It is dedicated to "the every-day farmer—the master-wheel of prosperity." There are two essentials in any system of keeping farm accounts: accuracy and simplicity, and these points are continually kept in mind by the author. He simplifies the work by using only one book, the cash book, in which are recorded not only cash and other original journal entries but also ledger accounts. Granting that some systematic record of business transactions is valuable for the farmer, it would seem that this little volume contains as workable a method as any yet published.—*R. J. Barnett.*

Fletcher M. Jeffery, '81.

The K. S. A. C. people in Seattle were shocked last Saturday morning to hear that their friend and fellow alumnus, Fletcher M. Jeffery, had gone to his last long home after a serious illness of one week, terminating fatally April 7, in the afternoon. We telephoned the news one to another and still it seemed hardly real that this robust man could have left us so suddenly, and our hearts went out at once to the little woman who had been widowed and the dear little girl and laddie who would never more know a kind father's care; for this man had been a very fond, ambitious father for the two promising little people. The funeral was delayed several days awaiting the arrival of the brothers and sisters, who came from other states to look once more upon his face and comfort those he left behind. Tuesday afternoon the services were held in the First Unitarian church of Seattle, attended by friends, fellow church members, lodge people, and our own College folk who were in town. The church was beautifully decorated and the many beautiful, fragrant flowers spoke silently of the esteem in which he was held. The minister began the service from the beautiful lines from Tennyson's "Crossing the Bar:" "And may there be no moaning of the bar when I put out to sea." Yet our hearts were sad, for although he called this "a joyous hour, this day of second birth," to those who are left behind there must ever be "The moaning of the bar."

Two solos were beautifully, feelingly sung, by our own people. Mrs. Moore, wife of our Harry E., '91, sang "The Home of the Soul," while Miss Shelton, daughter of our own professor, sang "Abide With Me." Three of our boys acted as pall-bearers, and our pillow of College colors in violets mutely spoke of the happiness of past days. And so they laid him away in beautiful Mount Pleasant overlooking the scene of what had been a part of his activity for nine years.

He was the oldest of our graduate members, having finished his College work with the class of 1881. "Ancient History" he used to call himself, and yet he was in the prime of life. His loyalty to the College has always been strongly apparent.

In the fall of '91, when many of us had not been long on the western coast, and each was ignorant of the existence of others from the old school, we received an invitation from the Jefferys to meet the College people at their home. This was the first delightful meeting that afterward grew into an association, and Mr. Jeffery was our first president. His wife has always shared his

College spirit, and in the fall of '04, on their return from the St. Louis Exposition, she took pleasure in visiting the scene of his boyhood school days. Of his early life you who knew him in those days can speak better than I. He was a native son of California, raised by a Methodist minister father, so he must have lived many places before he entered our school with his brother, William, who has "gone on before." Since graduation he has ever made the law his profession, practicing in California, Connecticut, Colorado, and Washington. He was at one time mayor of West Cripple Creek and had much to do with its stormy history. He held high offices in lodges and was a man always prominent in whatever work he engaged in. His passing is a loss to the College, in which he was ever interested, as well as to his church and many friends.

SADIE (MOORE) FOSTER, '94.

Annual Y. M. C. A. Banquet.

The annual banquet of the College Y. M. C. A., which was held in their new gymnasium last Tuesday night, was a complete success. Secretary Heald says that as nearly as he can estimate the association served 511 guests. About 150 of these were placed on the balcony and a large number in the hall. The rest succeeded in finding seats in the banquet room.

The banquet was prepared and served by the young men themselves, though the setting of the tables was done by the young women of the Domestic Science Department. An enjoyable feature of the occasion was the music furnished by a volunteer orchestra under the direction of Prof. R. H. Brown.

The speaking began early, but a great many people who were late for the dinner dropped in to hear the talk by Governor Stubbs. President Waters acted as toastmaster and introduced each speaker with a delightful little speech. The first speaker was Prof. A. M. TenEyck, who dealt in retrospects and prospects. He touched on the difficulties that had attended the building of the new home of the Y. M. C. A. and what was expected of the association in the future. He apologized for his comparative inactivity as a member of the executive board of the association and heaped praise upon Ex-President Nichols and Doctor Crise for their share in securing the new building. Doctor Crise spoke upon the growth and influence of the Y. M. C. A. He was followed by the new general secretary, Mr. Heald, who spoke upon the aim and ideal of the local association, including the extension of the association's influence among the town boys and,

later, the extension of the work to the country. Student Asbury Endacott talked on "Character Designing," and Clif Stratton spoke of the influence of the Y. M. C. A. among the students. Mr. Whitehair, of Topeka, state secretary of the Y. M. C. A., made a plea for a foreign mission as a career for college men. Governor Stubbs was introduced as the executive who had enforced the prohibitory law more rigidly than it is enforced in any other state in the Union, and the introduction brought the crowd to its feet with cheers. The governor began by telling how the Y. M. C. A. had found him a more or less selfish business man, wholly interested in making and investing money, and how he had grown by its assistance. However, his speech was largely devoted to the moral aspect of his administration and to the fight against the liquor traffic in some of the larger cities. At the end of the program the students sang the College song and closed by giving the College yell and its usual echoes.

Pres. H. J. Waters reports that the total amount of the cash contributions to the fund for the construction of the new athletic field last Thursday evening amounted to \$107.50. A considerable number of pledges have also been received. Some of the letters promise as much as fifty dollars, and quite a number made it twenty-five or more. The cash amounts received were as follows:

J. O. Tulloss, '99.....	\$ 2 50
Orr Morrison, '08.....	25 00
Ed. Secrest, '02.....	20 00
Bessie Little, '91.....	5 00
A. J. Cowles, '07.....	10 00
John Frost, '92.....	5 00
F. A. Adams, '09.....	25 00
F. B. Milliken, '09.....	10 00
N. M. Green, '97.....	5 00

A dairy meeting was held at the College May 11, for the purpose of instructing cream buyers in handling and testing of milk and cream in compliance with section nine of the Kansas State Dairy Laws, Chapter 237 of 1909. The meeting was attended by 98 candidates, four of whom were ladies. Addresses were delivered during the day by President Waters, Director Webster, and Professors Bushnell and Kendall. Dairy Commissioners Wilson and Alleman gave demonstrations and instructions. The meeting closed with a written examination. As there are over 900 papers to be graded by the commissioners it will be several weeks before the results of the examination will be known.

Local Notes.

Prof. Mary P. VanZile will speak at the annual commencement of Enterprise Academy, May 25.

Mr. Stevens, of Wichita, secretary of the Southern Kansas Millers' Club, was a visitor at the College last Tuesday.

The Dairy Husbandry Department has completed the manuscript for an Experiment Station bulletin on "Feeds for Dairy Cows."

E. V. Hoffman, '98, of Enterprise, visited the College last Wednesday, in behalf of the mills of the State that do an export flour business.

Herdsmen Alexander Edgar, for the Animal Husbandry Department, has left for a five-weeks' visit with his relatives and friends in Scotland.

Another of the popular recitals given by the Music Department will take place Thursday evening, May 19, in the Auditorium. Everyone is invited to attend.

The last copy for this year's class book went to the printer May 2. The committee expect to deliver the volume at least a week before Commencement.

Willis T. Pope ('98), professor of botany in the College of Hawaii, has been appointed by the governor, superintendent of public instruction for Hawaii.—*Science*.

The students of the architecture course are planning a visit to Kansas City to study building operations in the big plaining mills, art glass factories and stone yards of the metropolis.

Miss Grace Berry, of the senior class in domestic science, was last week elected teacher of domestic science in the Reno county high school. She will equip the department and install the course.

Prof. J. B. Parker, of the Department of Entomology of this College, has spent several days in examining wheat fields about South Haven, Kan., and reports chinch-bugs everywhere abundant and the disease everywhere present.

The attention of the College demonstration farm division will be directed from now on largely to the proper care and cultivation of the crops, cultivating for the double purpose of killing weeds and conserving soil moisture. The rain this week came just in time to be fully appreciated.

The annual Junior-Senior reception will be held May 28 in Fairchild Hall. After a short literary program the classes will retire to the Women's Gymnasium, where a five-course banquet will be served. Addresses by twelve members of the classes will be given here and the Shepherd's Crook will be handed down to the Juniors. Chairman John Martin, of the committee on arrangements, says that "the event will reach the top notch of the social events of the year."

The *Students' Herald* of May 7 publishes an interesting communication on athletics by Alumnus R. W. Clothier, '97, professor of agriculture in the University of Arizona. The professor has very radical ideas about physical training matters.

President Waters received last week a letter from Supt. A. P. Gregory, of the Beloit schools, in which he stated that he with the members of the graduating class for this year, and possibly one or two teachers, would visit the Agricultural College on the afternoon of May 23. The College classes will not be in session at that time, but as many of the laboratories will be open and in use our young visitors will be able to see very much of interest to them. Other high-school classes will probably visit the College that same week.

The Y. W. C. A. of the College will hold a May festival on the campus on the afternoon of Wednesday, May 25. The young women of the Golden Circle, together with their knightly protectors, will publicly crown the gracious queen of the sweet month of roses and seat her on her lily throne that she may receive her subjects and that they may pay homage to her. The classes will be given a half holiday to permit all to see the beautiful ceremonies. A program of the coronation will be published next week.

S. I. Wilkin, a former student at this College and at present business manager of the Sheridan County Farmers' Union, at Hoxie, Kan., writes to Professor Walters: "Permit me to thank you for the excerpts from P. M. Kokanour's letter. The "old crowd" are all enjoying these things about former students. I have 400 acres in crop out here and the nice rain makes us happy and hopeful of a remuneration. That red-headed boy of ours is growing like a sunflower. My wife joins me in wishing the senior of the Faculty many more years of usefulness."

A class of twenty senior domestic science girls, accompanied by Professor VanZile and Assistant Woodward, spent two days at Kansas City last week studying some of the great manufacturing establishments of food materials. They visited the Loose-Wiles Confectionary and Biscuit Company, The National Biscuit Company, and the Folger Coffee and Tea Company. They also visited the Kansas City (Kansas) High School and the Westport and Manual Training High Schools of Kansas City, Mo. They were very cordially received and report a pleasant and profitable trip.

The growth of the Kansas State Agricultural College makes it necessary to constantly add to the teaching force. Two more able men were recently added to fill places that have recently been created. They are E. L. Holton, of Columbia University, New York, who will have charge of industrial education in the Extension Department. His duties will be to oversee the introduction of agriculture, shop-work and home economics in the rural, graded and high schools of the State. The other addition is J. W. Searson, of Nebraska University, who will be associate professor of English.

W. S. Gearhart, highway engineer for the Extension Department, was in Chicago on Friday and Saturday to attend the meeting of the State Highway Engineers of the Mississippi Valley. This is a new organization and is composed entirely of state officials or those doing state work.

There is a persistent rumor all over the State that the College is in danger of losing Prof. Roland J. Kinzer, of the Animal Husbandry Department, or that the professor has been offered a larger salary by some other institution and has accepted the position. The facts are that the professor received a call this spring from the Agricultural College of Missouri to take charge of their Animal Husbandry Department, but when it became known that Missouri tried to secure him, friends of this College and leading stockmen all over the State urged him to stay at Manhattan, and we are in position to say that he has positively declined the flattering offer. Professor Kinzer is safely moored at the Kansas State Agricultural College.

The Summer Course in Domestic Science and Art will begin May 17 and close July 22. This course was instituted to meet the needs of teachers in the public schools. Completion of one summer's work entitles to a certificate. Only teachers now holding a teacher's certificate can enter these classes. The instruction follows the same general line as the regular course, with the exception that more stress is laid upon methods of presentation to young students. There are daily lectures and recitations on food values, accompanied by laboratory experiments in cooking. Daily lessons are given in sewing. All indications are that there will be a heavy enrolment. Miss Helen Huse will teach the domestic science and Miss Bertha Donaldson the domestic art. The weekly program will comprise the following work:

Cooking.....	15 hours
Sewing.....	10 hours
Floriculture.....	5 hours

The Experiment Station has been asked to render assistance to the flour mills of the State in cleaning out insects injurious to wheat and mill products. The request was made necessary from the fact that the marine insurance companies have withdrawn insurance against damage by weevil and other vermin in export flour. This action on the part of the marine insurance companies practically places a ban on all export business from the Kansas mills, but they have agreed on a basis of inspection and fumigation to accept flour from this territory, accompanied by certificates of such inspection. The Experiment Station has agreed to render all the assistance necessary and possible and the Entomological Department has detailed Prof. George A. Dean to take up this work at once. The mills will employ, at their own expense, an additional expert who will work under the supervision of the Entomological Department of this College. Facts concerning the progress of this important work will be published from time to time in the INDUSTRIALIST.

Board of Instruction (concluded from second page).

INSTRUCTORS (Concluded).

William L. House.....Instructor in Woodwork, Foreman of Carpenter Shop
 Louis Wabnitz.....Instructor in Machine Tool Work, Foreman of Machine Shop
 Ambrose E. Ridenour, B. S. (K. S. A. C.).....Instructor in Moulding, Foreman of Foundry
 J. H. Hollar.....Instructor in Forging, Foreman of Blacksmith Shop

ASSISTANTS.

Miss Ina E. Holroyd, B. S. (K. S. A. C.), (K. S. N.).....Assistant in Mathematics
 Miss Kate Tinkley.....Assistant Librarian
 Earl N. Rodell, B. S. (K. S. A. C.).....Assistant in Printing
 Chas. Yost.....Assistant in Heat and Power Department
 Earle B. Milliard.....Assistant in Machine Shops
 J. T. Parker.....Assistant in Woodwork
 E. G. Meinzer, M. A. (Olivet College).....Assistant in German
 Hugh Oliver.....Assistant in Heat and Power Department
 Miss Charlaire Furley, B. A. (Fairmount College).....Assistant in English
 Miss Jessie Reynolds, A. B. (University of Kansas).....Assistant in History
 William C. Lane, B. S. (K. S. A. C.).....Assistant in Electrical Engineering
 Miss Flora C. Knight, A. B. (University of Wyoming).....Assistant in English
 Miss Grace H. Woodward (Boston School of Domestic Science).....Asst. in Domestic Science
 Miss Margaret A. Mack (Kansas State Normal School).....Assistant in History
 S. W. McGarrah, M. A. (Grove City College).....Assistant in Mathematics
 C. A. Arthur Utt, M. S. (Cornell College).....Assistant in Chemistry
 Miss Florence Warner, A. B. (University of Illinois).....Assistant Librarian
 Miss Anna Gordon, A. B. (Iowa College).....Assistant in History
 Miss Bertha M. Johnston (Simmons College).....Assistant in Domestic Science
 Harrison E. Porter, B. S. (K. S. A. C.).....Assistant in Mathematics
 J. B. Parker, M. A. (Ohio State University).....Assistant in Entomology
 Allen G. Phillips, B. S. (K. S. A. C.).....Assistant in Poultry
 Miss Gertrude Cannon (Bethany College) (Oberlin Conservatory).....Assistant in Music
 Miss Bertha Bisby.....Assistant in Mathematics
 Fred M. Hayes, D. V. M. (K. S. A. C.).....Assistant in Veterinary Science
 Miss Bertha Donaldson (University of Chicago).....Assistant in Domestic Art
 Miss Elizabeth Putnam (Chicago Art Institute).....Assistant in Drawing
 L. E. Petty, A. B. (Wabash College).....Assistant in Mathematics
 Jules C. Cunningham, B. S. (K. S. A. C.).....Assistant in Horticulture
 Miss Annie E. Lindsey (Simmons College).....Assistant in Domestic Science
 Miss Amy Allen, B. S. (K. S. A. C.).....Assistant in Printing
 John E. Smith, B. S. (Oregon Agricultural College).....Assistant in Botany
 R. C. Wiley, B. S. (Oklahoma A. & M. College).....Assistant in Chemistry
 Porter J. Newman, B. S. (Franklin College).....Assistant in Chemistry
 C. E. Griffin, M. S. (University of Michigan).....Assistant in Chemistry
 C. W. Nash, B. S. (Iowa State College).....Assistant in Crops
 Chas. Doryland, B. S. (K. S. A. C.).....Assistant in Soils
 R. C. Thompson, B. S. (K. S. A. C.).....Assistant in Chemistry
 R. H. Wilson, D. V. M. (K. S. A. C.).....Assistant in Bacteriology
 Miss Helen Huse, B. S. (K. S. A. C.).....Assistant in Domestic Science
 E. F. Kubin, D. V. M. (K. S. A. C.).....Assistant in Veterinary Science
 B. S. Orr, B. S. (K. S. A. C.).....Assistant in Mechanical Engineering
 Elmer Johnson, B. S. (K. S. A. C.).....Assistant in Mechanical Engineering
 A. B. Nystrom, B. S. (K. S. A. C.).....Assistant in Dairy Husbandry
 A. Miyawaki, M. S. (K. S. A. C.).....Assistant in Experimental Dairying
 Geo. C. Wheeler, B. S. (K. S. A. C.).....Farm Management, Farmers' Institute Department
 C. V. Holsinger, B. S. (K. S. A. C.).....Horticulture, Farmers' Institute Department
 P. E. Crabtree.....Farm Management, Farmers' Institute Department
 Miss Frances L. Brown, B. S. (K. S. A. C.).....Domestic Science, Farmers' Institute Department
 C. H. Hinman, A. B. (University of Nebraska).....Dairying, Farmers' Institute Department
 W. S. Gearhart, B. S. in C. E. (University of Missouri).....Highway Engr., Farmers' Inst. Dept.
 E. L. Holton, A. B. (University of Indiana).....Rural Education, Farmers' Institute Department
 Miss Ethel Byerly, (Drexel Institute).....Assistant in Domestic Art
 T. G. Patterson, B. S. (University of Minnesota).....Assistant in Animal Husbandry
 Mrs. Jessie Gulick.....Assistant in Library
 Miss Mary Mudge, B. S. (K. S. A. C.).....Assistant in Library
 Miss Estella M. Boot, M. A. (Northwestern University).....Assistant in English
 J. R. Jenness, B. S. (Denison College).....Assistant in Physics
 Harry Evans, B. S. (Ohio State University).....Assistant in Entomology
 Miss Ada Baum (Chicago Musical College).....Assistant in Music
 Miss Ethel K. M. Ping (Sherwood Music School).....Assistant in Music
 E. P. Johnston, A. B. (Oberlin College) (Emerson Coll. of Oratory).....Asst. in Public Speaking
 Dean H. Rose, M. A. (Washington University, St. Louis).....Assistant in Botany
 Miss Anna Monroe, B. S. (K. S. A. C.).....Assistant in Botany
 Miss Madge Kay, B. S. (University of Chicago).....Assistant in Mathematics
 C. A. Jackson, B. S. (Purdue University).....Assistant in Mathematics
 D. O. Stone, C. E. (Cornell University).....Assistant in Civil Engineering
 Paul W. Graff, B. S. (Connecticut Agricultural College).....Assistant in Botany
 T. R. H. Wright, B. S. A. (University of Missouri).....Assistant in Animal Husbandry
 L. A. Chase.....Assistant in History
 Henry Wagner.....Assistant in Heat and Power
 A. E. White, M. S. (Purdue University).....Assistant in Mathematics
 H. W. Edson, A. M. (Harvard University).....Assistant in English
 M. R. Bowerman, B. S. (Michigan Agricultural College).....Assistant in Mechanical Engineering
 Frank C. Harris, B. S. (K. S. A. C.).....Assistant in Architecture and Drawing
 Geo. A. Westphalinger.....Band Leader
 Wm. A. Lamb.....Superintendent of Poultry Plant
 Floyd Howard.....Farm Foreman

THE INDUSTRIALIST

Vol. 36

Saturday, May 21, 1910

No. 28

Issued Weekly By
Kansas State Agricultural College
Manhattan, Kansas



~~~~~  
*Published by*  
**PRINTING DEPARTMENT**  
*J. D. Rickman, Supt.*

Entered at post-office, Manhattan, Kan., as second-class matter. Act of July 16, 1894.

# THE INDUSTRIALIST.

|                         |                 |
|-------------------------|-----------------|
| PRES. H. J. WATERS..... | Editor-in-Chief |
| DR. J. D. WALTERS.....  | Local Editor    |
| DR. J. T. WILLARD.....  | Alumni Editor   |

## BOARD OF REGENTS.

|                                                       |              |
|-------------------------------------------------------|--------------|
| HON. W. E. BLACKBURN, President.....                  | Anthony      |
| HON. J. O. TULLOSS ['99], Vice-President.....         | Sedan        |
| HON. EDWIN TAYLOR.....                                | Edwardsville |
| HON. ARTHUR CAPPER.....                               | Topeka       |
| HON. A. L. SPONSLER.....                              | Hutchinson   |
| HON. TOM BLODGETT.....                                | Wichita      |
| PRES. H. J. WATERS, Secretary <i>ex-officio</i> ..... | Manhattan    |

## BOARD OF INSTRUCTION

### FACULTY.

|                                                                |                                                     |
|----------------------------------------------------------------|-----------------------------------------------------|
| HENRY J. WATERS, B. S. A. (University of Missouri).....        | President                                           |
| ED. H. WEBSTER, B. S. A. (Ia. S. C.), M. S. (K. S. A. C.)..... | Director Exp. Sta., Dean of Agriculture             |
| JOHN D. WALTERS, D. A. (K. S. A. C.).....                      | Professor of Architecture and Drawing               |
| JULIUS T. WILLARD, D. Sc. (K. S. A. C.), Prof. of Chem. V..... | Director Exp. Sta., Dean of Science                 |
| BENJ. L. REMICK, Ph. M. (Cornell College).....                 | Professor of Mathematics                            |
| BENJ. F. EYER, E. E. (Armour Institute of Technology).....     | Prof. of Electrical Engineering                     |
| HERBERT F. ROBERTS, M. S. (K. S. A. C.).....                   | Professor of Botany                                 |
| WILLIAM A. MCKEEVER, Ph. M. (University of Chicago).....       | Professor of Philosophy                             |
| EDMUND B. MCCORMICK, S. B. (Mass. Inst. of Tech.).....         | Prof. of Mech. Eng., Dean of Mech. Arts             |
| ALBERT DICKENS, M. S. (K. S. A. C.).....                       | Professor of Horticulture, Supt. of Grounds         |
| CLARK M. BRINK, Ph.D. (U. of City of N. Y.).....               | Prof. of English, Dean of the Coll., Asst. to Pres. |
| ALBERT M. TEN EYCK, B. Agr. (University of Wisconsin).....     | Prof. of Agronomy, Supt. of Farm                    |
| RALPH R. PRICE, M. A. (University of Kansas).....              | Professor of History and Civics                     |
| JULIUS E. KAMMEYER, M. A. (Central Wesleyan College).....      | Professor of Economics                              |
| JOHN V. CORTELYOU, Ph. D. (Heidelberg).....                    | Professor of German                                 |
| OLOF VALLEY, B. M. (Chicago Conservatory).....                 | Professor of Music                                  |
| F. S. SCHOENLEBER, D. V. S. (Chicago Vet. College).....        | Professor of Veterinary Science                     |
| ROLAND J. KINZER, B. S. A. (Iowa State College).....           | Professor of Animal Husbandry                       |
| WALTER E. KING, M. S. (Cornell University).....                | Professor of Bacteriology                           |
| THOMAS J. HEADLEE, Ph. D. (Cornell University).....            | Professor of Entomology                             |
| CHAS. H. BOICE, First Lieutenant Seventh Cavalry, U. S. A..... | Professor of Military Science                       |
| JOHN C. KENDALL, B. S. (New Hampshire A. & M. College).....    | Professor of Dairy Husbandry                        |
| JOHN O. HAMILTON, B. S. (University of Chicago).....           | Professor of Physics                                |
| MRS. MARY P. VANZILE, (Iowa State College).....                | Prof. of Domestic Science, Dean of Women            |
| JOSHUA D. RICKMAN.....                                         | Superintendent of Printing                          |
| MISS MARGUERITE E. BARBOUR (Sargent Nor. Sch. Phys. Tr.).....  | Director of Physical Training                       |
| MISS ANTONETTA BECKER (Drexel Institute).....                  | Professor of Domestic Art                           |
| MISS GERTRUDE BARNES.....                                      | Librarian                                           |
| LOWELL E. CONRAD, M. S. (Lehigh University).....               | Professor of Civil Engineering                      |
| JOHN H. MILLER, M. A.....                                      | Superintendent Farmers' Institutes                  |
| MISS MARGARET BUTTERFIELD.....                                 | Secretary                                           |
| WILLIAM R. LEWIS.....                                          | Custodian                                           |

### ASSISTANT PROFESSORS.

|                                                                       |                                               |
|-----------------------------------------------------------------------|-----------------------------------------------|
| JACOB LUND, M. S. (K. S. A. C.).....                                  | Superintendent Heat and Power Department      |
| ANDREY A. POTTER, S. B. (Mass. Inst. of Tech.).....                   | Asst. Professor of Mechanical Engineering     |
| ROBERT H. BROWN, B. M. (Kan. Con. of Music), B. S. (K. S. A. C.)..... | Asst. Professor of Music                      |
| GEO. A. DEAN, M. S. (K. S. A. C.).....                                | Assistant Professor of Entomology             |
| WILLIAM H. ANDREWS, A. B. (University of Chicago).....                | Assistant Professor of Mathematics            |
| ROBERT E. EASTMAN, M. S. (Cornell University).....                    | Assistant Professor of Forestry               |
| LELAND E. CALL, B. S. (Ohio State University).....                    | Assistant Professor of Soils                  |
| ROY A. SEATON, B. S. (K. S. A. C.).....                               | Assistant Professor of Mechanical Engineering |
| LEONARD W. GOSS, D. V. M. (Ohio State University).....                | Asst. Professor of Veterinary Science         |
| GEO. E. BRAY, M. E. (University of Minnesota).....                    | Asst. Prof. Mech. Engineering, Supt. of Shops |
| MISS ULA M. DOW, B. S. (K. S. A. C.).....                             | Assistant Professor of Domestic Science       |
| H. H. KING, M. A. (Ewing College).....                                | Assistant Professor of Chemistry              |
| JOHN B. WHELAN, M. A. (University of Nebraska).....                   | Assistant Professor of Chemistry              |
| C. O. SWANSON, M. Agr. (University of Minnesota).....                 | Asst. Prof. of Agricultural Chemistry         |
| ROBT. J. BARNETT, B. S. (K. S. A. C.).....                            | Assistant Professor of Mathematics            |
| LOUIS H. BEALL, A. B. (Denison College).....                          | Assistant Professor of English                |
| WILMER E. DAVIS, M. S. (University of Illinois).....                  | Assistant Professor of Botany                 |
| F. G. KING, B. S. A. (University of Missouri).....                    | Assistant Professor of Animal Husbandry       |
| K. W. STODDER, D. V. M. (Iowa State College).....                     | Assistant Professor of Veterinary Science     |

### INSTRUCTORS.

|                                                                    |                                  |
|--------------------------------------------------------------------|----------------------------------|
| Miss Ada Rice, B. S. (K. S. A. C.).....                            | Instructor in English            |
| Miss Ella Weeks, A. B. (University of Kansas).....                 | Instructor in Drawing            |
| Miss Daisy Zeininger, B. A. (Fairmount College).....               | Instructor in Mathematics        |
| Theo. H. Scheffer, M. A. (Cornell University).....                 | Instructor in Zoölogy            |
| L. D. Bushnell, B. S. (University of Michigan).....                | Instructor in Bacteriology       |
| M. Francis Ahearn, B. S. (Massachusetts Agricultural College)..... | Instructor in Horticulture       |
| Burton Rogers, D. V. M. (Iowa State College).....                  | Instructor in Veterinary Science |
| Kirk H. Logan, B. S. (University of Kansas).....                   | Instructor in Physics            |
| Miss Clara Willis (Framingham Normal Institute).....               | Instructor in Domestic Science   |
| Miss Ina Cowles, B. S. (K. S. A. C.).....                          | Instructor in Domestic Art       |
| Miss Gertrude Stump, B. S. (K. S. A. C.).....                      | Instructor in Domestic Art       |
| Miss Annette Leonard, A. B. (University of Kansas).....            | Instructor in English            |

(Board of Instruction concluded on last page.)



# THE INDUSTRIALIST

VOL. 36.

MANHATTAN, KAN., MAY 21, 1910.

No. 28

## Fighting a Bread Famine.

Ex-Regent F. D. Coburn in the *Saturday Evening Post*.

Is wheat bread to become a luxury rather than a staple? James J. Hill says that at the present rate of increase in population, the ratio of production remaining the same, within twenty years a large part of the people will go to bed supperless. The *Northwestern Miller*, one of the high flour and milling authorities, in its issue of March 23, said: "The problem of giving the masses bread is becoming the question of the hour; beside it all others are insignificant."

These were not idle remarks, but the result of close observation and study by the shrewdest of the shrewd, and they present the most serious economic problem facing the American as well as the European public. The question of trusts, the graft scandals and other like issues will solve themselves, and though the evils incident to them may not be checked at once, only a comparatively small number of persons will be directly affected. But the question of bread supply confronts every individual in every civilized country. No one community, but the whole world has to meet it. The limit in wheat acreage has been pretty nearly reached. This leaves but one solution, which is to make every acre cultivated give a larger yield.

This can be done. The question of when it will be done depends on how soon the bread producers realize the situation confronting the bread consumers, and the method must be worked out to suit best the soil and the climate of the different wheat sections. Kansas has solved one problem closely akin to this—so closely related that the telling of how the State crept from one of the lowest in wheat production to the very top of the list is useful in indicating how the question of bread supply can be met. This she did by improving her own wheat yield, and thereby making the greatest wheat-producing state in the Union still greater.

The Kansas Agricultural College is doing a great work in getting the farmers interested in a better agriculture. It is experi-

menting for the best methods of production, and is growing, selecting and disseminating seed of the highest grades. Then the Kansas College, unlike some others, does not hide its light under a bushel, but spends thousands of dollars a year to send its teachers out to tell the farming communities what it has learned, what it has done and what it is doing.

At the College Station a large area is devoted to wheat experiments. Hundreds of plots are sown to wheat, more or less different in one respect or another, the teachers being careful to select for this purpose the most perfect grains of each sort. Tests showed that some heads produced 349 per cent more than others in the same plot, and 46 per cent more than the average. Seed from the high-producing heads has been sown, and such work and selection continued until there has been isolated seed that produces in the greatest profligacy the largest, best-formed and hardest grains, such as make the best flour. The College is now producing and distributing considerable quantities of such seed. In the institutes the farmers are shown how they can select the best grain, what grains to reject, the importance of removing all inferior kernels, and how experience has proved that such selection of seed increased the yields from the same acreage from 10 to 40 per cent.

The Agricultural College has made many experiments with different methods of farming. In Kansas the wheat yield is 13.9 bushels an acre, while in England it is 32.2 bushels and in Germany 26.1 bushels an acre. The soil of those countries is naturally no richer, if as rich, than that of Kansas, and the difference in the wheat yield can be attributed to the seed selection and the difference in methods of farming. In Kansas there is a large territory, and Kansas farms much and poorly; while in England and Germany the area is much more limited and the farmer farms well. When the Kansas farmer farms well continuously his yield of wheat will be doubled and possibly trebled in a few years—we will get an increase from an average of 78 million bushels for ten years to an average of 175 million bushels for every year. This would be one mighty stride toward solving the bread problem, and its like is possible in most of the agricultural territory of America.

---

Prof. E. L. Holton spent the last week visiting the county high schools in northwestern Kansas, Clay Center, Norton, Colby, Goodland, and Wakeeney. This week he will visit the high schools at Topeka, Kansas City, Kan., Leavenworth, and Atchison.



## Schedule of Classes, Spring Term, 1910.

(Showing Instructors, Class Periods (bold-face), and Numbers in Classes. Departments are arranged alphabetically.)

### Agronomy.

Assistant Professor Call: **1**, Agriculture, 21. **2**, Agriculture, 22. **3**, Soil Fertility, 12. 7:45 to 8:30, Soil Surveying, 15. **1-4 Mon.**, Soil Surveying Lab., 15. **5-8 Mon.**, Soil Fertility Lab., 12.  
Assistant Chase: **1**, Farm Equipment, 27. **2**, Farm Equipment, 39. **4**, Crop Production I, 62. **5-6 T, T, S**, Crop Production I Lab., 37. **7-8 T+T** and **5-6 F**, 26.

### Animal Husbandry.

Assistant Professor King: **1**, Stock Feeding, 50.  
Assistant Patterson: **1**, Live Stock I, alt. das., 25. **2**, Live Stock, alt. das., 50. **3-4**, Live Stock I Lab., T+T, 10. **1-4 Mon.**, Live Stock I Lab., 68.  
Assistant Wright: **2**, Animal Breeding, 23.

### Architecture and Drawing.

Professor Walters: **1**, Architectural Drawing, 4. **2**, Landscape Architecture, 14. **3-4**, Architectural Drawing, 9. **5-6**, Architectural Composition, T, T, S, 20; Landscape Architecture Lab. W+F, 13. **1-4 Mon.**, Architectural Seminary, 6.  
Instructor Weeks: **1-2**, Color & Design I, T+T, 11. Color & Design II, W+F, 7. **3-4**, Color & Design II, T+T, 23. **5-6**, Home Decoration, T+T, 14. W+F, 12. **1-4 Mon.**, Home Decoration, 28.  
Assistant Putnam: **3-4**, Color & Design I, W+F, 17; Object Drawing, T+T, 33. **5-6**, Object Drawing, T+T, 15; W+F, 29. **1-4 Mon.**, Modeling, 3.  
Assistant Harris: **2**, Descriptive Geometry, 24. **3-4**, Descriptive Geometry Lab., T+T, 21; Geometrical Drawing, W+F, 20. **5-6**, Geometrical Drawing, T+T, 14; W+F, 16. **1-4 Mon.**, Perspective II, 8.  
Assistant Morton: **3-4**, Geometrical Drawing, T+T, 27. **5-6**, Freehand Drawing, T+T, 29; W+F, 19. **1-4 Mon.**, Geometrical Drawing, 29.

### Bacteriology.

Professor King: **2**, Bacteriology I, alt. das., 31. **3**, Bacteriology V, 3. **5-7**, Bacteriology V Lab., 3. **6-8**, T+T, Bacteriology VII Lab., 8. **8-9**, Bacteriology IV Lab., T, T, S, 21; W, F, M, 8.  
Assistant Bushnell: **3-4**, Bacteriology I Lab., T+T, 11; W+F, 19. **6-7**, Bacteriology IV Lab., T, T, S, 26; W, F, M, 17. **5-6**, Bacteriology VII, 8.

### Botany.

Professor Roberts: **2**, Plant Breeding, 16. **7-8**, Plant Breeding Lab., W+F, 16.  
Assistant Professor Davis: **3**, Botany II, 29. **4**, Botany II, 21. **5-6**, Botany II Lab., Tu, 19; W, 19; Th, 8; F, 9.  
Assistant Smith: **1-2**, Botany II Lab., Tu., 11; W, 9. **5**, Botany I, 14. **6**, Botany II, 16. **5-7 Sat.**, Botany II Lab., 2.  
Assistant Rose: **3**, Botany I, 19. **5**, Botany II, 16.  
Assistant Monroe: **1**, Botany I, 19. **3-4**, Botany II, Lab., Tu., 17; W, 9. **7-8**, Plant Breeding Lab., W+F, 3.  
Assistant Graff: **1**, Botany II, 30. **2**, Plant Pathology I, 7. **7-8**, Plant Pathology I Lab., T+T, 7.

### Chemistry.

Professor Willard: **3**, Chemistry III, last ½ t., 34. **5**, Chemistry III, last ½ t., 25. **6**, Chemistry III, last ½ t., 17.  
Assistant Professor King: **1**, Chemistry I & II, 29-31. **2**, Chemistry II & III, 39-41. **3**, Chemistry II, first ½ t., 61, & III, last ½ t., 34. **4**, Chemistry III, last ½ t., 34.  
Assistant Professor Whelan: **1**, Chemistry II & III, 40-45. **2**, Organic Chemistry I, 11. **4**, Chemistry II, first ½ t., 26. **5**, Chemistry II, first ½ t., 24. **6**, Chemistry II, first ½ t., 13. **1-4 Mon.**, Organic Chemistry I Lab., 10.  
Assistant Professor Swanson: **5-8 Sat.**, Quantitative Analysis, 4. **5-8 Sat. and Mon.**, Quantitative Analysis, 3. **5-8 Mon.**, Quantitative Analysis, 3.  
Assistant Newman: **1-2**, Chemistry I & III Lab., T+T, 9. **3-4**, Chemistry III Lab., T+T, 19; W+F, 25. **5**, Chemistry I & II, 18-22. **6**, Chemistry I, 22. **1-4 Mon.**, Chemistry III Lab., 41.  
Assistant Griffin: **1-2**, Chemistry III Lab., W+F, 19. **3**, Chemistry I & II, 36-41. **4**, Chemistry I, 28. **5-6**, Chemistry III Lab., T+T, 41; W+F, 54. (Assisted by Mr. Thompson.) **1-4 Mon.**, Chemistry I & III Lab., 17.  
Assistant Thompson: **5-6**, Assisting Mr. Griffin in Chemistry III Lab., T+T; W+F.  
Miss Lewis: **1-2**, Chemistry I Lab., T+T, 13. **3-4**, Chemistry I & III Lab., W+F, 15. **5-6**, Chemistry I & III Lab., T+T, 20; W+F, 16. **5-8 Mon.**, Chemistry I Lab., 19.

### Civil Engineering.

Professor Conrad: **1**, Applied Mechanics III, 11. **4**, Steam Engineering I, 11. **5-6**, Structural Drawing, W+F, 11; Surveying II, Tu., 15. **5-8 Sat.**, Surveying VII (with Mr. Stone), 19. **1-8 Mon.**, Civil Engineering Lab., 8.

Assistant Stone: 1-2, Surveying I, T+T, 6; W+F, 8. 4, Geodesy, 20. 5-6, Surveying I, T+T, 12; W+F, 18. 1-4 Mon., Civil Engineering Drawing II, 19; Surveying I, 38. 5-8 Mon., Surveying I, 34; Surveying IV, 23. 5-8 Sat., Surveying VII (with Mr. Conrad), 19.

#### Dairy Husbandry.

Professor Kendall: 5-6, W+F, Dairy Management, 9.

Assistant Nystrom: 1, Market Milk and Cream, alt. das., 9. 4, Dairying, 15. 7:30-8:30 daily and 5-6 T+T, Market Milk and Cream Lab., 10. 5-8 Mon., Dairying Lab., 15.

Assistant Philips: 2, Poultry, alt. das., 23. 3, Poultry, alt. das., 19. 5-6, Poultry Lab., Wed., 43.

#### Domestic Art.

Professor Becker: 3-4, Dressmaking, W, F, S, 10. 5, Art Needlework, T+T, 9. 5-7, Art Needlework Lab., W+F, 9.

Instructor Stump: 1-2, Sewing I, T+T, 18. 3-4, Sewing III, T+T, 19. 5-6, Sewing III, T+T, 20.

Instructor Cowles: 1-2, Sewing III, W+F, 21. 3-4, Sewing II, W+F, 20. 5-6, Sewing III, T+T, 18; Sewing II, W+F, 20.

Assistant Donaldson: Summer Course Sewing, May 17 to July 22.

Assistant Byerly: 1-2, Sewing II, W+F, 8. 3-4, Dressmaking, W, F, S, 11. 5-6, Sewing I, T+T, 13.

Miss Ridenour: 1-2, Sewing I, W+F, 6; Dressmaking, T, T, S, 17. 3-4, Sewing III, W+F, 17.

#### Domestic Science.

Professor Van Zile: 3, Domestic Science V, 4. 5, Domestic Science II, 22.

Instructor Willis: 1, Home Nursing, 29. 3, Home Nursing, 25. 5-6, Therapeutic Cookery, W+F, 19. 6-7, Therapeutic Cookery, T+T, 18.

Assistant Woodward: 2, Food Production, 32. 3-4, Domestic Science II Lab., 23. 5, Domestic Science II, 23.

Assistant Lindsey with Miss Miles: 3-5, Domestic Science II Lab. Dinner Work, 21.

Assistant Huse: Summer Course Cooking, May 17 to July 22.

Assistant Smith: 6-8, Dietetics Lab., W+F, 9. 6, Dietetics, T, T, S, 9. 7-8, Therapeutic Cookery, T+T, 14.

Assistant Miles with Miss Lindsey: 3-5, Domestic Science II Lab., Dinner Work, 21.

#### Economics and Public Speaking.

Professor Kammeyer: 1, Economics, 46. 2, Public Speaking I, 18. 3, Public Speaking I, 25.

Assistant Johnston: 3, Public Speaking II, 15. 4, Public Speaking I, 14. 5, Public Speaking I, 18. 6, Public Speaking I, 10.

#### Electrical Engineering.

Professor Eyer: 2, A. C. Machines II, 17. 4, Power Transmission, and Electrical Installation, 17. 5-6, A. C. Machines II Lab., T+T, W+F, 17.

Assistant Lane: 1, Electricity, 32. 5-6, Electricity Lab., T+T, 14; W+F, 14; Sat., A. C. Designs, 17. 1-3 Mon., D. C. Machines I Lab., 13. 5-7 Mon., D. C. Machines I Lab., 13.

#### English.

Professor Brink: 1, English Literature, 18. 2, American Literature, 14. 3, English Literature, 25.

Assistant Professor Beall: 1, Rhetoric II, 16. 2, Rhetoric I, 30. 3, Readings, 14. 4, Rhetoric II, 29.

Instructor Rice: 1, Rhetoric I, 29. 2, Readings, 23. 4, Rhetoric I, 20. 5, Rhetoric II, 9. 6, Readings, 10.

Instructor Leonard: 1, Advanced Composition, 25. 2, Elementary Composition, 16. 5, Advanced Composition, 13. 6, Elementary Composition, 8.

Assistant Furley: 3, A Grammar, 11. 4, Classics, 17. 5, Classics, 9. 6, Advanced Composition, 14.

Assistant Knight: 3, Composition, 18. 4, Advanced Composition, 26. 5, Composition, 10. 6, Advanced Grammar, 12.

Assistant Boot: 1, Composition, 21. 2, Classics, 14. 5, Rhetoric I, 15. 6, Rhetoric I, 18.

#### Entomology and Zoology.

Professor Headlee: 1, Entomology I, 18. 2, Zoölogy II, alt. das., 26.

Assistant Professor Dean: 3, Entomology I, 20. 4, Entomology I, 18. 5-6, Entomology I Lab., T+T, 20; W+F, 23. 7-8, Entomology III, T, W, T, 2. 1-4 Mon., Entomology I Lab., 19. 5-8 Mon., Entomology I Lab., 27.

Assistant Scheffer: 1, Zoölogy I, 32. 2, Entomology I, 33. 3-4, Zoölogy I Lab., T+T, 16; W+F, 12. 5-6, Special Zoölogy Lab., T+T, 3. 1-4 Mon. Zoölogy II Lab., 13. 5-8 Mon., Zoölogy II Lab., 15.

#### German.

Professor Cortelyou: 1, German III, 17. 2, German V, 9. 5, German III, 18. 6, German III, 13.

Assistant Meinzer: 3, German II, 16. 4, German VI, 6. 5, German II, 15. 6, German IV, 21.



**History.**

Professor Price: 7:25-8:10, American History II, 22. 1, Civics, 31. 2, American History, 26. 3, Civics, 31.  
 Assistant Reynolds: 1, Ancient History, 15. 2, Modern History, 24. 3, Ancient History, 24. 4, Modern History, 27.  
 Assistant Mack: 3, Civics, 17. 4, Medieval History, 11. 5, Modern History, 12.  
 Assistant Gordon: 2, Medieval History, 17. 3, Medieval History, 15. 4, U. S. History A, 11.  
 Assistant Chase: 1, English History, 28. 2, English History, 27. 3, Modern History, 32. 6, Modern History, 19.

**Horticulture and Forestry.**

Professor Dickens: 2, Horticulture, 23. 3, Vegetable and Landscape Gardening, 8. 5-6, Vegetable and Landscape Gardening Lab., W+F, 8.  
 Assistant Professor Eastman: 1, Dendrology, 2. 5-8 Sat., Dendrology Lab., 2. 5-6, Silvics Lab., T+T, 2.  
 Assistant Cunningham: 1-4 Mon., Horticulture Lab., 14.  
 Assistant Ahearn: 1-4 Mon., Floriculture, 10.

**Library.**

Miss Barnes: Library Economy, 1, 1; 5-6, 1.

**Mathematics.**

Professor Remick: 1, Analytical Geometry, 11. 2, Differential Calculus, 11. 3, Integral Calculus, 12. 4, Algebra III, 18.  
 Assistant Professor Andrews: 1, Integral Calculus, 9. 2, Analytical Geometry, 9. 3, Differential Calculus, 11. 4, Geometry II, 21.  
 Assistant Professor Barnett: Bookkeeping, 1, 16; 2, 15; 4, 14.  
 Instructor Zeininger: 1, Algebra II, 21. 2, Trigonometry, 14. 5, Geometry II, 12. 6, Algebra IV, 7.  
 Assistant Porter: 1, Differential Calculus, 8. 2, Geometry I, 22. 5, Geometry I, 18. 6, Trigonometry, 12.  
 Assistant McGarrah: 1, Trigonometry, 29. 2, Geometry II, 28. 3, Algebra III, 27. 4, Algebra II, 27.  
 Assistant White: 1, Geometry II, 21. 2, Algebra II, 26. 3, Analytical Geometry, 13. 4, Trigonometry, 15.  
 Assistant Holroyd: 1, Algebra III, 24. 2, Algebra I, 17. 6, Geometry II, 18.  
 Assistant Bisbey: 4, Geography, 5. 5, Arithmetic B, 7. 6, Arithmetic A, 15.  
 Assistant Petty: 3, Algebra I, 14. 4, Algebra IV, 15. 5, Trigonometry, 14. Geometry I, 10.  
 Assistant Kay: 1, Algebra IV, 19. 2, Algebra III, 26. 3, Geometry I, 27. 4, Geometry I, 10.  
 Assistant Jackson: 3, Trigonometry, 22. 4, Algebra I, 11. 5, Algebra II, 12. 6, Algebra III, 7.

**Mechanical Engineering.**

Professor McCormick: 5-6, Mechanical Drawing VIII, T+T, 8.  
 Assistant Professor Potter: 2, Steam Engineering IV, 8. 3, Kinematics I, 16. 5-7, Mechanical Engineering Lab., II, W+F, 9; Tu. 1. 5-7, Engineering Lab., I, Tu. 10; Th. 9; S, 8.  
 Assistant Professor Seaton: 1, Applied Mechanics III, 8. 2, Applied Mechanics I, 13. 3, Applied Mechanics I, 13. 5-6.  
 Assistant Professor Seaton and Assistant Bowerman: Mechanical Drawing I, 1-4 Mon., 9; 5-8 Sat., 10. Mechanical Drawing II, 5-6 T+T, 12; W+F, 14; 8-9, W+F, 15. Mechanical Drawing III, 1-4 Mon., 5-6 Sat., 16. Mechanical Drawing V, 1-4 Mon., 8.  
 Assistant Professor Bray: 6, Kinematics I, 7.  
 Assistant Bowerman: 1, Kinematics I, 11. 2, Kinematics I, 13.  
 Instructor House: 1-4 Mon., Pattern Making, 16. 5-8 Mon., Pattern Making 14.  
 Instructor House and Assistant Parker: Woodwork I, W+F 1-2, 4; 3-4, 10; 5-6, 29. Woodwork II, 5-8 Mon., 7; T+T 1-2, 4; 3-4, 7; 5-6, 18.  
 Instructor Wabnitz: Machine Shop I, W+F, 5-6, 10; 7-8, 3. Machine Shop III, T+T, 5-6, 13; 5-8 Mon. 9. Machine Shop II, 1-4 Mon., 7.  
 Instructor Ridenour: Foundry, 1-2, 4; 3-4, 1; 5-6, T+T, 2; 5-6 W+F, 7; 5-8 W, 1.  
 Instructor Hollar: Blacksmithing I, 1-4 Mon., 19; W+F, 1-2, 11; 3-4, 25; 5-6, 19. Blacksmithing II, 5-8 Mon., 13; T+T, 1-4, 3; 5-6, 12.  
 Assistant Oliver: Traction Engine, Mon. a. m., 5; Mon. p. m., 5; Tu. p. m., 4; Th. p. m., 3; Sat. 4. p. m.  
 Assistant Johnson: Gas Engines, Mon. a. m., 4; Mon. p. m., 4; Fri. p. m., 3; Sat. p. m., 4.

**Military Science.**

Lieutenant Boice: 7, Military Drill, T, W, T, & F, 267.

**Music.**

Professor Valley: Voice Culture and Singing, 1, 10; 2, 8; 3, 15; 4, Sat., 5; 5, 19; 6, 12. Glee Club, 7, 12. Choral Union, Mon. nights, 86.  
 Assistant Professor Brown: Violin, 1, 4; 2, 8; 3, 9; 4, 4; 6, 11. 5, Theory of Music, 7. 7, Orchestra, 28.

Assistant Cannon: Piano, 1, 9; 2, 15; 3, 12; 4, 14; 5, 8; 6, 12. History of Music, 5, Wed., 3.  
 Assistant Baum: Piano, 1, 11; 2, 13; 3, 15; 4, 15; 5, 12; 6, 8.  
 Assistant Ping: Piano, 1, 9; 2, 6; 3, 16; 4, 12; 5, 11; 6, 14. Harmony, 5, Tu., 3.  
 Miss Biddison: Vocal Music, 1, 5; 2, 5; 3, 9; 4, 12; 5, 13; 6, 8. Notation, 1, 4; 6, 3; 7, 7.  
 Mr. Westphalinger: 2, Clarinet, 1. 3, Baritone, 1. 4, Cornets, 3. 5, Trombone, 4. 6, Horns, 3. 7, Band, 26.

#### Philosophy.

Professor McKeever: 1, Psychology, 40. 2, Psychology, 24. 3, Methods and Management, 11. 4, Philosophy, 25.

#### Physical Training.

Director Barbour: 3, Physical Training I, T, W, T+F, 21. 4, Physical Training III, T, W, T+F, 14. 6, Physical Training II, T, W, T+F, 35. 7, Physical Training III, T, W, T+F, 51.

#### Physics.

Professor Hamilton: 1, Physics V, 20. 2, Physics V, 30. 5, Physics II, 42. 6, Physics I, 21. Physics I Lab., 1-2 Mon., 20; 3-4 Mon., 18.  
 Instructor Logan: 1-2, Physics II Lab., T+T, 13; W+F, 10. 3, Physics V, 15. 4, Physics II, 38. 5-6, Physics V Lab., T+T, 22; W+F, 25. 1-4 Mon., Physics V Lab., 10.  
 Assistant Jenness: 1, Physics I, 44. 2, Physics I, 36. 3-4, Physics I Lab., Wed., 7; Sat., 24. Physics II Lab., T+T, 15. 5-6, Physics II Lab., T+T, 13; W+F, 19. 1-4 Mon., Physics II Lab., 20.

#### Printing.

Superintendent Rickman: 3-4, Tu., Estimating Jobs, 6; Th., Papers, Rollers and Inks, 5; W+F, Cutting Stock and Trimming and Tabbing, 4. (Other Printing subjects, but with only one student in each.)  
 Assistant Rodell: Printing subjects scattered through the day, averages 2 students each hour for six hours every day.  
 L. B. Strickrott: 3-4, Presswork 2. 5-6-7-8-9, Presswork, 2.

#### Veterinary.

Doctor Schoenleber: 2, Medicine V, 7.  
 Assistant Professor Stouder: 1, Surgery II, alt. das., 13. 3, Medicine II, 16. 5-6, Pharmacy Lab., two das., 14; Surgery II Lab., three das., 13. 5-8, Clinic and Operative Surgery, 22.  
 Assistant Professor Goss: 1, Histology II, alt. das., 9. 2, Comparative Physiology II, 20. 4, Pathology I, 22. 5-6, Histology II Lab., W+F, 8; Comparative Physiology II Lab., Tu., 10; Th., 10. 1-4 Mon., Hematology, 10.  
 Instructor Rogers: 7:35-8:30 W+F, Anatomy II, 13. 7:00-8:30 T+T, Anatomy III Lab., 20. 1, Anatomy III alt. das., 7; Parasitism, alt. das., 17. 3, Obstetrics, 22. 4, Meat Inspection, 9.  
 Doctor Burt: 1, Elementary Physiology, 6. 2, Physiology, 35. 3, Obstetrics, 12. 4, Diseases of Farm Animals, 33. Physiology Lab., Sat., 5-6, 23; Mon. 1-2, 8.

## Summer School at K. S. A. C., June 14.

The demand this year for teachers of agriculture and for teachers of manual training has been so great that the authorities of the Kansas State Agricultural College have found it necessary to offer a summer course, primarily for teachers, but open to others, these courses to include as majors agriculture and woodwork. As minors the College will offer a one-hour course in general pedagogy and in the theory of vocational education, and a one-hour course in botany and physics, these subjects being prepared primarily for teachers who will also teach agriculture.

The course will open June 14 and will continue for six weeks. It will include lectures and laboratory work in soils, farm crops, horticulture, entomology; animal husbandry, dairying, poultry; woodwork six hours per day or two hours per day. Those who wish to take woodwork as a major will be given six hours' instruction six days per week. Those who wish to take agriculture as a major may have six hours in lectures and laboratory work, one



hour for education and one hour for physics and botany, or they may take four hours per day in agriculture and two hours in woodwork.

The work to be offered this summer will be extremely practical and intended primarily to fit men for teaching agriculture and manual training next year. It has been decided, however, to offer for the summer of 1911 very comprehensive courses for six weeks in agriculture, manual training, and home economics, each course to be made a unit with a great variety of subjects, each to be taken very thoroughly and upon which it will be proper to ask for and to receive College credit. No credit can be given for work to be offered this year.

The summer school will open on Tuesday, June 14 (Commencement week) and continue for six weeks. Regular work will be offered every day that week, however, except Thursday, when adjournment will be made for the regular Commencement exercises.

More detailed information for the summer school may be had by addressing the President.

## Einer Muss Heiraten.

The German Department of the College will give an evening entertainment Wednesday, June 1, at 8 p.m., in the Auditorium. The program will consist of German songs and declamations, an address in German by Professor Roberts and a short German comedy play entitled: "One of Us Must Get Married." The projected entertainment will be the first of its kind given by the Department and will undoubtedly be interesting. Admission will be free. The program is as follows:

### DEUTSCHES FESTPROGRAMM.

#### PART I.

|                                              |                                           |
|----------------------------------------------|-------------------------------------------|
| Vorsitzer.....                               | Dr. J. D. Walters                         |
| Music.....                                   | Ladies' Octet                             |
|                                              | "In einem Kuehlen Grunde"                 |
|                                              | "Du, du liegst mir im Herzen."            |
| Address, "Dies u. Das in Deutschland".....   | Prof. H. F. Roberts                       |
| Music, Duet.....                             | Misses Clara Kliwer and Agnes Woestemeyer |
| Music, Solo, "Es hat nicht sollen sein"..... | Elmer F. Kittell                          |
| Reading from "Wilhelm Tell".....             | Miss Clara Schild                         |
| Music, Solo.....                             | Siegfried R. C. Stomps                    |

#### PART II.

Comedy: "Einer muss heiraten," Wilhelmi.

|               |                    |
|---------------|--------------------|
| Gertrude..... | Ellen M. Batchelor |
| Jacob.....    | August W. Seng     |
| Wilhelm.....  | Edgar G. Meinzer   |
| Luise.....    | Maida Schultz      |

## Local Notes.

The Glee Club is practicing serenades. Now, wait for the full moon.

The College catalogue for 1909-10 is in the hands of the State Printer.

Hon. W. E. Blackburn, President of the Board of Regents, was at the College Monday doing committee work.

Prof. William H. Andrews will deliver the commencement address of the High School of Burr Oak, May 20.

The public recital by the students of the music classes given Thursday night in the Auditorium was very successful and a credit to the Faculty of the department.

Prof. B. F. Eyer's classes in power transmission did considerable practical experimenting in measuring electric currents this week up at the Rocky Ford power station.

Henry W. Brinkman, '07, graduate from the course in architecture, writes from Emporia that since his location at that place he has furnished plans and specifications for thirteen new church buildings. "Brinky" is a worker.

Dan Walters, '09, visited College one day last week. He is at present superintending the erection of a \$40,000 school building, for ex-State Architect Stanton, at Garden City, Kan., but will soon take up work in Stanton's main office at Topeka.

Messrs. T. A. Jennings and R. O. Thomen, of Junction City, were at the College last Wednesday to confer with Professor Kendall about dairy matters and to inspect the new silos. They intend to build concrete silos on their farms near that place.

The attention of alumni and former students is called to the fact that they should not deem it necessary to have received a communication from the athletic field committee before making a pledge or donation. The available alumni mailing list is somewhat defective, and many letters sent out have been returned. If you are an alumnus, former student or friend of the Kansas State Agricultural College and wish to help build the new athletic field, simply make the contribution payable to H. J. Waters, Treasurer, and send your letter to Mr. U. A. Domsch, Secretary Athletic Field Committee, Manhattan, Kan.

Graduating classes from colleges have long had the habit of offering fellowships, prizes, etc., but it remained for the senior domestic art girls of the Kansas State Agricultural College to offer a real inducement towards home building. At present each girl in the class is working on a linen piece which will go to make up a linen box for the first girl in the class who marries. This box will be left in charge of Miss Becker, professor of Domestic Art Department, until the time of the first wedding. Considerable interest was manifest among the senior Aggie boys when the news leaked out and last reports have it that one had bet a cook-stove that he could tell who would be the lucky girl.



Prof. E. Lindhard, director of the agricultural experiment station of Tystote, Denmark, visited College last Thursday and Friday to study the conditions of American agriculture and the organization of agricultural schools.

President Waters, treasurer of the athletic field fund, reports that during the week ending May 20, the cash contributions amounted to \$50, making the total collected \$157.50. The following amounts were received:

|                                                         |         |
|---------------------------------------------------------|---------|
| C. C. Cunningham, '03, and wife (May Griffing, '07).... | \$10 00 |
| Winifred Dalton, '06 .....                              | 10 00   |
| P. J. Meenen, '09.....                                  | 25 00   |
| L. W. Waldraven, '00.....                               | 5 00    |

Mr. Geo. C. Wheeler, of the Extension Department, spent last week supervising the erection of a silo for Mr. R. G. Campbell, near Meriden. Mr. Hinman, of the same department, left last Wednesday for Mulvane, where he will superintend the erection of three silos, and then he has one to erect near Wellington and another near Augusta.

Mr. W. S. Gearhart, highway engineer for the Extension Department, was present at a good-roads meeting at Barnes on Wednesday of last week and reports great enthusiasm for road improvement in that part of Washington county. Mr. Gearhart has a very timely article in the *Mail & Breeze* of the past week on "Suggestions on Road Building."

Rudolph B. Nelson and Harry E. Overholt, junior students in the architecture course last year, are working as architectural draftsmen in Kansas City this spring. Mr. Nelson shoves the Faber for Architects Sanneman, '06, and VanTrump, and Mr. Overholt pushes the T-square for Architects Kurfiss and Goddard. Henry A. Spuhler, '06, is superintendent of construction in Kansas City. Nelson and Overholt intend to return to College next fall and finish the course.

Asst. L. A. Chase, of the Department of History, seems to be in considerable demand as a writer of magazine articles on historical subjects. In the past three months six such articles have been placed. In addition to the two already mentioned in these columns they include a short article appearing in the *Michigan Moderator-Topics* of April 28, while a series of three longer articles will be published, beginning with the June number, in the *Western Journal of Education*. Others are in preparation.

The latest pamphlet from the Extension Department of the College is "Suggestions for Girls' Contests in Cooking and Sewing," and this pamphlet is being mailed out this week to farmers' institute officers, to all girls who are in any of the institute contests, and to all members of the Girls' Home Economics Clubs. It will also be mailed free to any woman or girl in the State upon application to the Extension Department. The pamphlet gives the rules and suggestions for conducting the various contests for the girls' work.

Prof. J. C. Kendall has recently purchased a light delivery truck of the automobile type for gathering cream from the farms in the vicinity of the College. The truck is of a new type recently put on the market by the Buick Motor Company, of Flint, Mich. The machine will arrive in a few days.

All of the senior mechanical and part of the senior electrical engineers went to Kansas City Monday morning, where they will inspect some of the big power plants of that city under the supervision of Professors McCormick and Conrad. They will spend Monday, Tuesday, and part of Wednesday in Kansas City, and will leave there Wednesday afternoon for Lansing, going to Bonner Springs Thursday, where they will spend the afternoon inspecting the mines, power plants, etc.—*Students' Herald*.

Prof. J. C. Kendall was at Belleville last Monday to start the construction of two concrete silos on the farm of Mr. Daggett. From Belleville he went to Concordia to visit the ranch owned by the Concordia Creamery Company near that place, that is being converted into a dairy farm. This company has recently purchased the herd of Dutch belted cattle recently owned by Frank R. Sanders, of Bristol, New Hampshire. This is recognized as one of the best herds in the United States. It is the only herd of the kind in Kansas.

Chas. W. Melick, assistant and postgraduate student in the Dairy Department of this College in 1907, writes to Professor Walters that he is now bacteriologist for the Fairmount Creamery Company, of Omaha, Neb. The company, it seems, has established a bacteriological laboratory to assist its work of using the by-products of the creamery. It is their plan also to make a new summer drink similar to buttermilk, only more wholesome. Mr. Melick writes: "We are doing nicely and have a boy and a girl in our family now."

President Waters has received a letter from Supt. A. P. Gregory, of the Beloit schools, in which he states that the seniors of the high school, the graduating class, will visit the Agricultural College on the afternoon of May 23. While the regular classes of the College will not be in session on Monday, practically all of the laboratories will be open and the visitors will be shown through the buildings that afternoon in order that they may know something of the work of the institution. Doubtless several other high-school classes will visit the College that week.

The State track meet was held last Tuesday at Emporia and our boys did well, though the Normals came out ahead three points. We made seven firsts and broke four State records. Christian broke the 100-yard record by reaching the tape in ten seconds flat. Fowler broke the half-mile record. Pyles spoiled two by doing the broad jump of twenty-two feet, one-half inch, and the high jump of five feet, seven and one-half inches. Holmes made thirteen points in the weights, winning the shot put and hammer throw and taking second in the discus. Ambler won third in the high jump.



Mr. C. V. Holsinger, of the Extension Department, was in Doniphan county the greater part of last week working on the demonstration orchard near Troy and making considerable investigation with Professor Dickens of orchard conditions in that community. From there he will go to spend several days in the potato district along the Kaw, getting into closer communication with the potato growers of that district to know about their troubles and needs.

The Fort Scott Butter Company writes to State Dairy Commissioner D. M. Wilson: "Our butter this season, so far, is showing a most decided improvement in quality over last year and we attribute it entirely to the lecture you gave our operators when here and the fact that they must ship oftener. The shortage on tests is practically done away with in our Kansas stations, and it is unnecessary to state the reason for this. Our men are taking a much greater interest in the work and seem to realize that there is something in the creamery and dairy business. In fact, the good that you are doing and have already done in this territory can not easily be estimated."

Kansas will lose a valuable man next August when A. G. Philips, head of the Poultry Department at the Agricultural College, leaves for Purdue University, at Lafayette, Ind. Mr. Philips will be in charge of the new poultry division at Purdue and will be an associate in the experiment station. He gets a substantial raise in salary and a fine opportunity for advanced experimental work, the field being new. The Purdue board has picked a good man to start the work. Mr. Philips graduated from the K. S. A. C. in the animal husbandry course in '07, doing his major work in poultry. The next year he took advanced work in poultry at Cornell University and was then called to K. S. A. C. to take charge of the poultry work. His energy and enthusiasm has placed the work here upon a plane equal to that of any western agricultural college. While here he prepared two bulletins, "Feeding of Hens" and "Marketing Eggs."

The trustees of the Atchison County High School, located at Effingham, decided on May 10 to establish a vocational course in the high school, including domestic science and art, manual training, and agriculture. They will take a graduate of the Agricultural College for the work in agriculture and twenty acres of ground will be leased for some demonstration work in farming and gardening. This is the first county high school to definitely decide to put in the demonstration plot. No experiments will be undertaken on these plots, but the land will be farmed in the very best possible way to produce the highest possible results and will be under the general direction of the College, with the detail work, of course, in charge of the teacher of agriculture. The College will assist the county high school some time next winter in holding a "Farmers' Week," similar to the State Farmers' Institute held here at the College, sending three or four teachers over there for the week, and farmers and their families from the whole county will be invited to attend the sessions. It is hoped that other county high schools will undertake similar work.

The sophomores—some fifty or more of them—got up at three o'clock last Thursday morning and marched to the top of Blue-mont to see the comet rise and to greet it with the College yell. They saw several million miles of its long tail sticking up behind a cloud, but the head persisted in laying low. However, it is the tail that makes the comet. The party had a well-filled lunch wagon with them, and while they waited for Mister Comet the men boiled coffee and the women spread a breakfast. At eight o'clock they appeared in a solid procession at the chapel exercises and sang "K. S. A. C., Carry thy banners high!"

Our track team won the meet, on May 13, from Nebraska Wesleyan University with a score of 78 to 49. The interesting fact about the contest is that five College records were broken. Pyles, the colored jumper, smashed both the broad- and high-jump records, his first figure being 5 feet 7 inches and the other 21 feet 1.5 inches. Christian won the 220-yard dash in  $22\frac{3}{5}$ , took the 100-yard dash, and gave the world record a run with the time of  $9\frac{1}{5}$ . (The world's record is  $9\frac{3}{5}$ .) In the quarter-mile Christian was going good and was in the lead at the three-quarter post when he caught a spike in the shoe of an opponent and fell. Fowler got in the lime-light by winning the half-mile race and making the new College record of  $2:05\frac{4}{5}$ . In the shot-put Holmes beat the College record with a distance of 38 feet 8.5 inches, but doesn't get the credit because Sutton, his opponent from Nebraska, beat him with 39 feet 7 inches. The meet was a famous victory.

To better acquaint the agricultural population of Kansas with the fact that the State has the largest agricultural experiment station in the world at Fort Hays, a farmers' convention will be held there June 7 and 8. The Branch Experiment Station at Hays has nearly four thousand acres of land, half of which is now in cultivation. There are about five hundred acres in wheat, all improved varieties, and officers at the Station declare it is the best prospect in the State. Another five hundred acres is in Indian, Kafir, milo, and broom-corn of many varieties, and one hundred fifty acres is in alfalfa and other crops, some of the grain being new to the West. The orchard, forestry and garden areas also will be of great interest. Of importance to stockmen will be the biggest cattle-feeding experiment ever conducted anywhere, with twenty-four cows and one bull of each of the four beef breeds, Hereford, Shorthorn, Angus, and Galloway. The experiment really started a year ago and several of the cows now have calves at side. The program will be the same each day—inspection of the farm, explanation of experiments, addresses in the grove by those in authority, a general conference with questions and discussions and examination of cattle herds. Every institute and every commercial club in Kansas is asked to send some delegates. A general invitation is extended to everybody to come and see and learn and contribute something to the meeting—the first of the kind ever held in Western Kansas. The commercial club of Hays will see that all participants are properly cared for.



The College orchestra is busy with the music for the Choral Union Concert, and for Commencement week. Prof. R. H. Brown reports that the members are taking much interest in their work and that they are doing well. The personnel and instrumentation this term is as follows: *Violins*.—R. R. Hand, F. A. Korsmeier, J. A. Schlaefli, A. W. Seng, W. G. Davis, Miss Mary Lane, W. B. Honska, G. B. Kirkpatrick, G. Nider, I. T. Koogle. *Viola*.—F. W. Fowler. *Cellos*.—L. T. Perrill, F. H. Fate. *Basses*.—L. B. Barofsky, N. Cross. *Flutes*.—R. S. Hawkins, E. W. Denman. *Oboe*.—F. E. Davis. *Clarinet*.—Chas. McKirahan. *Cornets*.—P. V. Kelley, C. A. Davis. *Horns*.—Geo. May, R. R. Reynolds. *Trombones*.—J. R. McClung, M. S. Collins. *Piano*.—Miss Florine Fate. *Drums*.—L. R. Hain, D. D. Gray.

The College has employed an irrigation engineer for some special investigations in Western Kansas relative to irrigating along the smaller streams, and even to the problems of irrigating with inexpensive pumping plants or with wind-mills. This expert is Mr. J. W. Longstreth, for many years with the United States government in irrigation work. Mr. Longstreth will first work out along the Lincoln Branch of the Union Pacific, stopping at Plainville, Hill City, and Moran, and making some studies as to the possibilities of irrigating along the Saline and Solomon rivers, and later he will investigate the same problems along the Smoky Hill river from the southwest corner of Gove county to the center of Russell county. Mr. Longstreth will make a careful study of the small streams, a study of the character of the soil, and the object will be to find one or two men in each county who will put in small irrigating plants and conduct the same under the supervision of the College.

---

Social Development and Education (Houghton Mifflin Co., \$2.00, net), is the title of a new volume by Prof. M. V. O'Shea, of the University of Wisconsin. The book is divided into two parts, the first treating the genesis and developmental course of typical social attitudes, and the second, social education. It is based upon sound principles of psychology and sociology and has the further merit of being written in a popular and attractive style. The author proves by this book that he has been in close touch with the growing child in all the ages and situations of the latter. As a guide book to be placed in the hands of parents who are attempting seriously to train their children, it is almost ideal. The teacher, too, will find in this volume a rich fund of problems and suggestions for class work and a large number of illustrations of pedagogical principles. I regard the chapter on "Docility" as being one of the best dissertations of the kind anywhere to be found, while the one on "Aggression" is a close second to it. In short, this valuable work of Professor O'Shea's is destined to find a permanent place among the thousands who are now studying the practical side of psychology and sociology.—William A. McKeever, *Professor of Philosophy*.

## Board of Instruction (concluded from second page).

## INSTRUCTORS (Concluded).

William L. House.....Instructor in Woodwork, Foreman of Carpenter Shop  
 Louis Wabnitz.....Instructor in Machine Tool Work, Foreman of Machine Shop  
 Ambrose E. Ridenour, B. S. (K. S. A. C.).....Instructor in Moulding, Foreman of Foundry  
 J. H. Hollar.....Instructor in Forging, Foreman of Blacksmith Shop

## ASSISTANTS.

Miss Ina E. Holroyd, B. S. (K. S. A. C.), (K. S. N.).....Assistant in Mathematics  
 Miss Kate Tinkey.....Assistant Librarian  
 Earl N. Rodell, B. S. (K. S. A. C.).....Assistant in Printing  
 Chas. Yost.....Assistant in Heat and Power Department  
 Earle B. Milliard.....Assistant in Machine Shops  
 J. T. Parker.....Assistant in Woodwork  
 E. G. Meinzer, M. A. (Olivet College).....Assistant in German  
 Hugh Oliver.....Assistant in Heat and Power Department  
 Miss Charlaire Furley, B. A. (Fairmount College).....Assistant in English  
 Miss Jessie Reynolds, A. B. (University of Kansas).....Assistant in History  
 William C. Lane, B. S. (K. S. A. C.).....Assistant in Electrical Engineering  
 Miss Flora C. Knight, A. B. (University of Wyoming).....Assistant in English  
 Miss Grace H. Woodward (Boston School of Domestic Science).....Asst. in Domestic Science  
 Miss Margaret A. Mack (Kansas State Normal School).....Assistant in History  
 S. W. McGarrah, M. A. (Grove City College).....Assistant in Mathematics  
 C. A. Arthur Utt, M. S. (Cornell College).....Assistant in Chemistry  
 Miss Florence Warner, A. B. (University of Illinois).....Assistant Librarian  
 Miss Anna Gordon, A. B. (Iowa College).....Assistant in History  
 Miss Bertha M. Johnston (Simmons College).....Assistant in Domestic Science  
 Harrison E. Porter, B. S. (K. S. A. C.).....Assistant in Mathematics  
 J. B. Parker, M. A. (Ohio State University).....Assistant in Entomology  
 Allen G. Phillips, B. S. (K. S. A. C.).....Assistant in Poultry  
 Miss Gertrude Cannon (Bethany College) (Oberlin Conservatory).....Assistant in Music  
 Miss Bertha Bisby.....Assistant in Mathematics  
 Fred M. Hayes, D. V. M. (K. S. A. C.).....Assistant in Veterinary Science  
 Miss Bertha Donaldson (University of Chicago).....Assistant in Domestic Art  
 Miss Elizabeth Putnam (Chicago Art Institute).....Assistant in Drawing  
 L. E. Petty, A. B. (Wabash College).....Assistant in Mathematics  
 Jules C. Cunningham, B. S. (K. S. A. C.).....Assistant in Horticulture  
 Miss Annie E. Lindsey (Simmons College).....Assistant in Domestic Science  
 Miss Amy Allen, B. S. (K. S. A. C.).....Assistant in Printing  
 John E. Smith, B. S. (Oregon Agricultural College).....Assistant in Botany  
 R. C. Wiley, B. S. (Oklahoma A. & M. College).....Assistant in Chemistry  
 Porter J. Newman, B. S. (Franklin College).....Assistant in Chemistry  
 C. E. Griffin, M. S. (University of Michigan).....Assistant in Chemistry  
 C. W. Nash, B. S. (Iowa State College).....Assistant in Crops  
 Chas. Doryland, B. S. (K. S. A. C.).....Assistant in Soils  
 R. C. Thompson, B. S. (K. S. A. C.).....Assistant in Chemistry  
 R. H. Wilson, D. V. M. (K. S. A. C.).....Assistant in Bacteriology  
 Miss Helen Huse, B. S. (K. S. A. C.).....Assistant in Domestic Science  
 E. F. Kubin, D. V. M. (K. S. A. C.).....Assistant in Veterinary Science  
 B. S. Orr, B. S. (K. S. A. C.).....Assistant in Mechanical Engineering  
 Elmer Johnson, B. S. (K. S. A. C.).....Assistant in Mechanical Engineering  
 A. B. Nystrom, B. S. (K. S. A. C.).....Assistant in Dairy Husbandry  
 A. Miyawaki, M. S. (K. S. A. C.).....Assistant in Experimental Dairying  
 Geo. C. Wheeler, B. S. (K. S. A. C.).....Farm Management, Farmers' Institute Department  
 C. V. Holsinger, B. S. (K. S. A. C.).....Horticulture, Farmers' Institute Department  
 P. E. Crabtree.....Farm Management, Farmers' Institute Department  
 Miss Frances L. Brown, B. S. (K. S. A. C.).....Domestic Science, Farmers' Institute Department  
 C. H. Hinman, A. B. (University of Nebraska).....Dairying, Farmers' Institute Department  
 W. S. Gearhart, B. S. in C. E. (University of Missouri).....Highway Engr., Farmers' Inst. Dept.  
 E. L. Holton, A. B. (University of Indiana).....Rural Education, Farmers' Institute Department  
 Miss Ethel Byerly, (Drexel Institute).....Assistant in Domestic Art  
 T. G. Patterson, B. S. (University of Minnesota).....Assistant in Animal Husbandry  
 Mrs. Jessie Gulick.....Assistant in Library  
 Miss Mary Mudge, B. S. (K. S. A. C.).....Assistant in Library  
 Miss Estella M. Boot, M. A. (Northwestern University).....Assistant in English  
 J. R. Jenness, B. S. (Denison College).....Assistant in Physics  
 Harry Evans, B. S. (Ohio State University).....Assistant in Entomology  
 Miss Ada Baum (Chicago Musical College).....Assistant in Music  
 Miss Ethel K. M. Ping (Sherwood Music School).....Assistant in Music  
 E. P. Johnston, A. B. (Oberlin College) (Emerson Coll. of Oratory).....Asst. in Public Speaking  
 Dean H. Rose, M. A. (Washington University, St. Louis).....Assistant in Botany  
 Miss Anna Monroe, B. S. (K. S. A. C.).....Assistant in Botany  
 Miss Madge Kay, B. S. (University of Chicago).....Assistant in Mathematics  
 C. A. Jackson, B. S. (Purdue University).....Assistant in Mathematics  
 D. O. Stone, C. E. (Cornell University).....Assistant in Civil Engineering  
 Paul W. Graff, B. S. (Connecticut Agricultural College).....Assistant in Botany  
 T. R. H. Wright, B. S. A. (University of Missouri).....Assistant in Animal Husbandry  
 L. A. Chase.....Assistant in History  
 Henry Wagner.....Assistant in Heat and Power  
 A. E. White, M. S. (Purdue University).....Assistant in Mathematics  
 H. W. Edson, A. M. (Harvard University).....Assistant in English  
 M. R. Bowerman, B. S. (Michigan Agricultural College).....Assistant in Mechanical Engineering  
 Frank C. Harris, B. S. (K. S. A. C.).....Assistant in Architecture and Drawing  
 Geo. A. Westphalinger.....Band Leader  
 Wm. A. Lamb.....Superintendent of Poultry Plant  
 Floyd Howard.....Farm Foreman



# THE INDUSTRIALIST

Vol. 36

Saturday, May 28, 1910

No. 29

*Issued Weekly By*  
**Kansas State Agricultural College**  
*Manhattan, Kansas*



~~~~~  
Published by
PRINTING DEPARTMENT
J. D. Rickman, Supt.

Entered at post-office, Manhattan, Kan., as second-class matter. Act of July 16, 1894.

THE INDUSTRIALIST.

PRES. H. J. WATERS.....	Editor-in-Chief
DR. J. D. WALTERS.....	Local Editor
DR. J. T. WILLARD.....	Alumni Editor

BOARD OF REGENTS.

HON. W. E. BLACKBURN, President.....	Anthony
HON. J. O. TULLOSS '99], Vice-President.....	Sedan
HON. EDWIN TAYLOR.....	Edwardsville
HON. ARTHUR CAPPER.....	Topeka
HON. A. L. SPONSLER.....	Hutchinson
HON. TOM BLODGETT.....	Wichita
PRES. H. J. WATERS, Secretary <i>ex-officio</i>	Manhattan

BOARD OF INSTRUCTION

HENRY JACKSON WATERS, B. S. A. (University of Missouri).....	President of the College
JOHN DANIEL WALTERS, D. A. (K. S. A. C.).....	Professor of Architecture and Drawing
JULIUS T. WILLARD, D. Sc. (K. S. A. C.), Prof. of Chem. V.-Director Exp. Sta., Dean of Science	
JOSHUA D. RICKMAN.....	Superintendent of Printing
BENJ. L. REMICK, Ph. M. (Cornell College).....	Professor of Mathematics
BENJ. F. EYER, E. E. (Armour Institute of Technology).....	Prof. of Electrical Engineering
HERBERT F. ROBERTS, M. S. (K. S. A. C.).....	Professor of Botany
WILLIAM A. MCKEEVER, Ph. M. (University of Chicago).....	Professor of Philosophy
EDMUND B. MCCORMICK, S. B. (Mass. Inst. of Tech.).....	Prof. of Mech. Eng., Dean of Mech. Arts
ALBERT DICKENS, M. S. (K. S. A. C.).....	Professor of Horticulture, Supt. of Grounds
CLARK M. BRINK, Ph.D. (U. of City of N. Y.).....	Prof. of English, Dean of the Coll., Asst. to Pres.
ALBERT M. TEN EYCK, B. Agr. (University of Wisconsin).....	Prof. of Agronomy, Supt. of Farm
RALPH R. PRICE, M. A. (University of Kansas).....	Professor of History and Civics
JULIUS E. KAMMEYER, M. A. (Central Wesleyan College).....	Professor of Economics
JOHN V. CORTELYOU, Ph. D. (Heidelberg).....	Professor of German
OLOF VALLEY, B. M. (Chicago Conservatory).....	Professor of Music
F. S. SCHOENLEBER, D. V. S. (Chicago Vet. College).....	Professor of Veterinary Science
ROLAND J. KINZER, B. S. A. (Iowa State College).....	Professor of Animal Husbandry
JOHN H. MILLER, M. A.	Superintendent Farmers' Institutes
WALTER E. KING, M. S. (Cornell University).....	Professor of Bacteriology
THOMAS J. HEADLEE, Ph. D. (Cornell University).....	Professor of Entomology
CHAS. H. BOICE, First Lieutenant Seventh Cavalry, U. S. A.	Professor of Military Science
JOHN C. KENDALL, B. S. (New Hampshire A. & M. College).....	Professor of Dairy Husbandry
JOHN O. HAMILTON, B. S. (University of Chicago).....	Professor of Physics
MRS. MARY P. VAN ZILE, (Iowa State College).....	Prof. of Domestic Science, Dean of Women
ED. H. WEBSTER, B. S. A. (Ia. S. C.), M. S. (K. S. A. C.).....	Director Exp. Sta., Dean of Agriculture
LOWELL E. CONRAD, M. S. (Lehigh University).....	Professor of Civil Engineering
MISS ANTONETTA BECKER (Drexel Institute).....	Professor of Domestic Art
CHARLES A. SCOTT, B. S. (K. S. A. C.).....	State Forester
LESLIE ARTHUR FITZ, B. S. (K. S. A. C.).....	In Charge of Department of Milling Industry
EDWIN LEE HOLTON, A. B. (University of Indiana).....	Professor of Rural Education
ANDREY A. POTTER,* B. B. (Mass. Inst. of Tech.).....	Professor of Steam and Gas Engineering
ROY ANDREW SEATON,† B. S. (K. S. A. C.).....	Professor of Applied Mechanics and Hydraulics
MISS MARGUERITE E. BARBOUR (Sargent Nor. Sch. Phys. Tr.), Director of Physical Training	
MISS GERTRUDE A. BARNES.....	Librarian
JAMES WILLIAM SEARSON,* A. M. (University of Nebraska).....	Associate Professor of English
JACOB LUND, M. S. (K. S. A. C.).....	Superintendent Heat and Power Department
ROBERT H. BROWN, B. M. (Kan. Con. of Music), B. S. (K. S. A. C.).....	Asst. Professor of Music
GEO. A. DEAN, M. S. (K. S. A. C.).....	Assistant Professor of Entomology
WILLIAM H. ANDREWS, A. B. (University of Chicago).....	Assistant Professor of Mathematics
GEO. C. WHEELER, B. S. (K. S. A. C.).....	Lecturer on Farm Management, Extension Department
ROBERT E. EASTMAN, M. S. (Cornell University).....	Assistant Professor of Forestry
LELAND E. CALL, B. S. (Ohio State University).....	Assistant Professor of Soils
PLEASANT E. CRABTREE.....	Lecturer on Farm Management, Extension Department
K. W. STODDER, D. V. M. (Iowa State College).....	Assistant Professor of Veterinary Science
LEONARD W. GOSS, D. V. M. (Ohio State University).....	Asst. Professor of Veterinary Science
MISS ULA M. DOW, B. S. (K. S. A. C.).....	Assistant Professor of Domestic Science
H. H. KING, M. A. (Ewing College).....	Assistant Professor of Chemistry
JOHN B. WHELAN, M. A. (University of Nebraska).....	Assistant Professor of Chemistry
C. O. SWANSON, M. Agr. (University of Minnesota).....	Asst. Prof. of Agricultural Chemistry
ROBT. J. BARNETT, B. S. (K. S. A. C.).....	Assistant Professor of Mathematics
LOUIS H. BEALL, A. B. (Denison College).....	Assistant Professor of English
GEO. E. BRAY, M. E. (University of Minnesota).....	Asst. Prof. Mech. Engineering, Supt. of Shops
WILMER E. DAVIS, M. S. (University of Illinois).....	Assistant Professor of Botany
F. G. KING, B. S. A. (University of Missouri).....	Assistant Professor of Animal Husbandry
CLARENCE VICTOR HOLSINGER, B. S. (K. S. A. C.).....	Lecturer on Horticulture, Extension Dept.
FRANCES LANGDON BROWN, B. S. (K. S. A. C.).....	Lecturer on Domestic Science, Extension Dept.
CLAUDE HARRISON HINMAN, A. B. (Univ. of Neb.).....	Lecturer on Dairying, Extension Dept.
WALTER SCOTT GEARHART, B. S. in C. E. (U. of Missouri).....	Highway Engr., Extension Dept.
MISS ADA RICE, B. S. (K. S. A. C.).....	Instructor in English
MISS ELLA WEEKS, A. B. (University of Kansas).....	Instructor in Drawing
MISS DAISY ZEININGER, B. A. (Fairmount College).....	Instructor in Mathematics
THEOPHILUS H. SCHEFFER, M. A. (Cornell University).....	Instructor in Zoölogy
LELAND DAVID BUSHNELL, B. S. (University of Michigan).....	Instructor in Bacteriology
MICHAEL FRANCIS AHEARN, B. S. (Massachusetts Agr. College).....	Instructor in Horticulture
BURTON RAY ROGERS, D. V. M. (Iowa State College).....	Instructor in Veterinary Science
KIRK HAROLD LOGAN, A. B. (University of Kansas).....	Instructor in Physics
MISS CLARA WILLIS (Framingham Normal Institute).....	Instructor in Domestic Science
MISS INA FOOTE COWLES, B. S. (K. S. A. C.).....	Instructor in Domestic Art
MISS GERTRUDE STUMP, B. S. (K. S. A. C.).....	Instructor in Domestic Art
MISS ANNETTE LEONARD, A. B. (University of Kansas).....	Instructor in English
WILLIAM LEONARD HOUSE.....	Instructor in Woodwork, Foreman of Carpenter Shop
LOUIS WABNITZ.....	Instructor in Machine Tool Work, Foreman of Machine Shop

*Beginning September 1, 1910. †On leave of absence during season 1909-'10.

(Board of Instruction concluded on last page.)

THE INDUSTRIALIST

VOL. 36.

MANHATTAN, KAN., MAY 28, 1910.

No. 29

A Chapter from the Early History of the College.

Dr. J. D. Walters, Professor of Architecture and Drawing.

On the second day of July, 1912, the Kansas State Agricultural College will celebrate its semi-centennial. Fifty years ago, counting from that date, President Abraham Lincoln signed the so-called Morrill Act, an act that donated to each state and territory 30,000 acres of public land for each senator and representative in Congress, for "the endowment, support and maintenance of at least one college" for the benefit of "agriculture and the mechanic arts."

This magnificent donation, giving Kansas 90,000 acres of land, which a few years later sold for half a million dollars, was formally accepted by the State legislature on February 3, 1863, and the resolution locating the College at Manhattan was passed twelve days later. Only a small number of states preceded Kansas in organizing and locating their state agricultural and mechanical college, and a much smaller number succeeded in putting their land-grant institution in working order at an earlier date. In fact, the Kansas College was in working shape in less than a month from the time it was located here.

The first legislative efforts in America of founding an agricultural college were made in Massachusetts. A bill providing for the organization of an agricultural school and the establishment of an experiment station passed the Senate of that state in 1850, but was defeated in the House. The defeat of this bill provoked much comment in agricultural circles, and resulted in the appointment of a board of commissioners who were to consider further steps in the matter and report at the next session. In 1852 their report, with an elaborate account of the organization and work of the agricultural schools of Europe visited by Professor Hitchcock, was made to the legislature.

But the time was not favorable for the teaching of practical science. No immediate action resulted from their recommendations, except, perhaps, the establishment of a state board of agriculture; yet the matter was not permitted to rest. Massachu-

setts became a center of the agitation which finally triumphed in Congress in the passage of the "Morrill Act."

The honor of founding and maintaining the first institution of learning on the continent whose sole object should be the teaching of agriculture and agricultural science belongs to the energetic state of Michigan. The constitution of Michigan, adopted in 1850, directed the legislature to encourage agricultural improvement and to provide for the establishment of an agricultural school. In obedience to this direction, the legislature in 1855 authorized officers of the state agricultural society to select, subject to the approval of the state board of education, a site near Lansing for the school, and to purchase for it not less than 500 nor more than 1000 acres of land, and appropriated twenty-two sections of land, or the money arising from their sale, for the purchase of the site, erection of buildings, and the payment of necessary expenses. A tract of land was selected about three miles from Lansing, and the erection of buildings commenced. In May, 1857, the college went into operation, with a faculty of six teachers and an attendance of sixty-one students—the first agricultural school of any kind on this continent.

But during the early years of its existence the Michigan college underwent severe trials. The buildings had been poorly constructed and required expensive repairs and additions; efficient instruction could not be afforded; the curriculum was in an unsettled state; the old education was on the war-path and refused to give way to new ideas, and the question whether the institution should continue to afford a general education or be so modified as to offer professional training alone was vigorously debated. In 1859 the advocates of the latter idea were victorious, and the course of instruction was cut down from four years to two. The first agricultural college in America had not yet graduated one student when its young life was already in danger from irreconcilable differences of opinion as to how it should be run.

In 1861 a state board of agriculture was created by the legislature of Michigan, partly for the management of the state agricultural college. The board consisted of six appointed members, with the governor of the state and the president of the college as members *ex-officio*. Half of them were to be practical farmers. Their term of service was to be six years, two going out of office every second spring. This reorganization, however, was the cause of new disagreements. The purpose, scope and sphere of agricultural education required definition, and the tinkering with "rules and regulations" commenced once more. This time the

course of study was lengthened to four years; women were excluded from the course, and the afternoons of five days each week were devoted to labor by the active student body. The college provided a dormitory with suitable board for all students, and cottages for the professors. These details are mentioned here because the Michigan Agricultural College was the first practical school of the kind in America. When the Morrill act was passed, in 1862, two additional institutions had been founded—the Maryland Agricultural College and the Pennsylvania Agricultural College, both organized in 1859.

The history of the Kansas institution differs radically from that of the Michigan school, as the following paragraphs, excerpted from the writer's "History of the Kansas State Agricultural College," will tell: The College owes its location and initiative momentum to the pioneers of Manhattan. The city was founded in 1855 by the coöperation of two colonies—one from New England, arriving March 24, and one from Cincinnati, arriving June 1. Among the members of the New England colony were several college graduates, and it is stated that the founding of a college was discussed and decided upon during the voyage, long before reaching the objective point of the expedition, the confluence of the Big Blue and Kaw rivers.

From necessity the project had to be deferred for awhile, but it was not abandoned. As early as 1857, when the buffaloes were yet numerous in the northern part of Riley county, and less than three summers had bleached the roof of the first house west of the Blue river, an association was formed to build a college in or near Manhattan, to be under control of the Methodist Episcopal Church of Kansas, and to be called, "Bluemont Central College."

The charter was approved February 9, 1858. It provided for the establishment of a classical college, but contained the following (in the light of future history) interesting section: "The said association shall have power and authority to establish, in addition to the literary department of arts and sciences, an agricultural department, with separate professors, to test soils, experiment in the raising of crops, the cultivation of trees, etc., upon a farm set apart for the purpose, so as to bring out to the utmost practical results the agricultural advantages of Kansas, especially the capabilities of the high prairie lands."

The leading members of the association were: Rev. Joseph Denison, D. D., afterwards President of the College; Isaac T. Goodnow, elected State superintendent in 1862, reelected in 1864; Rev. W. Marlatt, later a model farmer on College Hill; S. C. Pomeroy, afterwards United States senator.

A site of 100 acres was selected for the institution upon the rising ground about one mile west from the town, and the title secured by special act of Congress introduced and fathered by Senator Pomeroy. The Cincinnati Town Company promised liberal aid in town lots and town stock, but coupled their promise with the illiberal clause that the aid should not be delivered until the college association could show property to the amount of \$100,000. The New England Town Company gave 50 shares of stock in the north half of Manhattan, representing 100 city lots. I. T. Goodnow, assisted by Doctor Denison, sold these, and by personal solicitation here and in the East obtained funds for a building. Many of the founders must have taxed themselves quite heavily. G. S. Park (one of the builders of Parkville, Mo.), S. D. Houston, Joseph Denison, John Kimball, J. S. Goodnow, I. T. Goodnow and Washington Marlatt gave \$300 each, which were princely gifts when measured by the financial condition of these pioneers. The whole amount of cash collected from all sources at the time amounted to \$4000.

The corner-stone was laid with elaborate ceremony, May 10, 1859, with speeches from General Pomeroy and others, and the institution was opened for the reception of students about one year thereafter. It was a poor time and place, however, for building up a college. The squatters had nothing to give, the students were scarce, the Methodist Episcopal Church of the territory had two other educational institutions to support, and the country was disturbed by the bloody preambles of the War of the Rebellion. The first annual report of the institution to the Kansas and Nebraska Methodist Episcopal Conference gives the names of 53 pupils, under the charge of Rev. Washington Marlatt as the principal teacher and Miss Julia A. Bailey as the assistant. The salary of Reverend Marlatt for 1860 was \$600, and was to be paid in Bluemont city town lots—lots that never had more than a nominal value. No wonder that he complained: "The labor of teaching is great enough for two persons, while the income is barely sufficient to pay the board for one." (Records of Bluemont College, October 24, 1860.)

At another occasion, the dedication of Fairchild Hall, the Reverend stated, with a smile at his wife who had been the aforesaid Miss Julia A. Bailey, that he was forced to marry his efficient assistant in order to make it possible for "the Faculty" to get along with one cooking stove and one bed.

Upon the admission of Kansas as a state, January 29, 1861, the founding of a State University became a probability, and the trus-

tees of Bluemont College, represented by Hon. I. T. Goodnow, were nearly successful in locating that institution at Manhattan by offering their building for this purpose. On March 1 the measure passed both Houses of the Legislature, but met with a veto from Gov. Charles Robinson, who was determined that the State University or the State capital should go to Lawrence. Robinson was willing to barter with the delegates from Manhattan and their friends, if they would assist him to get the Statehouse for his own town, but the Manhattan delegation had already pledged themselves for Topeka; they refused to change their adhesion, and lost the State University for Bluemont.

A little over a year later another chance presented itself for the College to become a State institution. When, on July 2, 1862, the "agricultural college act" was passed by Congress, the trustees offered it once more to the Legislature, and this time the offer was accepted. The donation, at the time it was made, consisted of 100 acres of land, a plain three-story stone building measuring 44x60 feet and containing in the third story a chapel with a curved ceiling, a library of several hundred volumes, and some illustrative apparatus. The total valuation of the property was probably in the neighborhood of \$25,000.

The gift to the State of the property of Bluemont College was a liberal one; yet, like many such gifts, it had several strings to it that made its acceptance of doubtful value. It prevented the State from removing the institution from the particular piece of land upon which it was located, and forced the College into a tedious lawsuit twenty years later, when a removal became positively necessary. The worst feature of the bargain, however, was yet of a different character. It seemed proper that the donators of Bluemont—officers and members of the Faculty—should be retained in the transformation of the classic college into a technical school. The Methodist conference of Kansas-Nebraska assumed the right for many years to dictate the appointment of the members of the Board of Regents, and received annual reports from the officers as if there had been no transfer of property of any kind. History, English literature, Latin, Greek, French, German, psychology, etc., formed the bulk of the course of instruction of the more advanced classes, while the lower classes did common-school work of the most primitive character. In other words, the metamorphosis of the classical college into a technical school did not become complete by the passage of the agricultural college act; it took over a dozen years to accomplish it.

The act referred to is "An act donating public lands to the sev-

eral states and territories which may provide colleges for the benefit of agriculture and the mechanic arts," giving to each state lands to the amount of 30,000 acres for each senator and representative in Congress, for "the endowment, support and maintenance of at least one college" for the benefit of "agriculture and the mechanic arts." The bill was passed by Congress in 1859, but was vetoed by President James Buchanan under the pressure of the States Rights party. In 1862 the act was again passed, and the pen that wrote the proclamation of emancipation—the death warrant of American slavery—approved it.

Summer Courses in Agriculture and Manual Training.

The pronounced sentiment of the best men and women in Kansas for the training of our boys and girls in vocational studies has created a very large demand for teachers of agriculture and manual training. The Agricultural College cannot supply enough teachers from its own list of graduates. It is, therefore, offering this summer course for the benefit of those who desire to fit themselves to teach either agriculture or manual training or both, next year.

There are many well-trained men who have had thorough courses in botany, zoölogy, chemistry and physics, who are interested in agriculture, but need just such instruction, inspiration and guidance as will be offered at the Agricultural College this summer. There are many well-trained country school-teachers who want to know more of agricultural science, in order to teach elementary classes. These people are invited to avail themselves of the special courses offered by the College this summer.

The student will have the opportunity to choose between two courses, one in which agriculture predominates, and another in which the major subject is shop work. Or the student may combine portions of the two courses.

THE COURSES.

I. AGRICULTURE.

1. *Soils and Plants*.—This course will consist of a lecture of one hour and a laboratory period of one or two hours daily throughout the course, and will include the study of such subjects as soils, farm crops, corn, and small grain judging, plant propagation, germination tests, budding and grafting, fruit judging, and insects injurious to farm crops. By Professors Dickens, Scott, Headlee, and Assistant Professor Call.

2. *Farm Animals*.—This course will consist of one lecture of one hour and one laboratory period of two hours each day, and will include the judging of cattle, horses, sheep, and swine, the manufacturing of butter and cheese, and the scoring, judging, handling and management of poultry. By Professors Kinzer and Kendall, and Assistant Philips.

3. *Education*.—One lecture daily. The first half of the course will be devoted to pedagogy and general school management. By Professor McKeever. The second portion of the course will be devoted to vocational education, or the methods of introducing agriculture, shop work and domestic science into the high school and the grades. By Professor Holton.

4. *Physics or Botany*.—One lecture and one demonstration daily. By Professor Hamilton or Professor Roberts. These courses will be models of the way in which the subjects should be taught in the secondary school.

II. MANUAL TRAINING.

1. *Woodwork*.—Three and a half hours of shop practice per day throughout the course, consisting of bench work and cabinet making. In this course a lecture will be given each alternate day on manual training methods for schools.

2. *Modeling*.—Three and a half hours per day throughout the course, consisting of making of molds and cores, and of cupola practice. Special attention will be paid to the use of alloys such as can be readily employed in the average high school for making casts, etc. The instruction in this course will be such as to fit a person to teach the work with such facilities as the average high school affords.

3. *Blacksmithing*.—Three and a half hours daily throughout the course, consisting of practice in forming and welding wrought iron and the manufacture of steel, and sufficient instruction in the use of high-carbon steels to give the student skill in making and tempering such tools as will be needed in this and other branches of manual training in the high school. This course will be accompanied by lectures.

Students in manual training may elect two of the three groups above, with education, or they may elect one group in manual training and one in agriculture.

Agricultural students may devote themselves entirely to the agricultural groups, or elect a group in agriculture and in manual training.

The course in education will be required of all students in either course.

The laboratories and shops will be open from 8 a. m. to 5 p. m.

III. OTHER COURSES.

Home Economics.—A teachers' course in domestic science and art will be in progress at the College at the same time, having been begun May 17, and will continue ten weeks.

EXPENSES.

These courses will begin June 14, 1910, and continue six weeks. The only fee charged by the College will be the regular incidental fee of \$3.00, which the State law requires to be charged of all students who are citizens of Kansas. Board and room may be had for from \$4 to \$5 per week.

The Commencement exercises of the College will be held on June 16, when there will be no sessions of the summer school. The Commencement address will be given by Hon. Willis L. Moore, Chief of Weather Bureau Service, Washington, D. C. Subject: The Wonders of the Air.

For further information address Pres. H. J. Waters, Manhattan, Kan.

Dry-land Farming Conference at Hays.

The meeting at Hays for June 7-8 promises to be the largest meeting of the kind ever held in the State. The Experiment Station farm is making a better appearance this spring than ever before and the wheat prospect is considered the finest in the State. Farmers from all parts of western Kansas are invited to come to the meeting on either June 7 or June 8 and inspect the work in progress and to hear addresses on western Kansas farming problems. Hon. E. C. Chilcott, of the Department of Agriculture, Washington, D. C., is expected to be present and addresses will be made by him, by President Waters, Director Webster, and Professor Ten Eyck.

Already reports are coming in from many of the counties out west indicating that scores of automobile parties will be formed for the trip; probably fifty automobiles going up from Barton county, and one man writes from Rush county that every automobile in that county will be at Hays on June 7.

In the second part of the *matinée* concert, June 13, by the Music Department, the Hinshaw singers will give two scenes from the classic opera "Martha," by Flotow. The singers will appear in costume and for the first time in the history of the College we will have complete and costumed opera scenes produced on our stage.

***Kansas State Agricultural College,
47th Annual Commencement.***

June 12 to 16, 1910.

Sunday, June 12.

Baccalaureate Sermon, Albert Boynton Storms, D. D., LL. D.,
President Iowa State College, Auditorium, 4 p. m.
Music by College Orchestra and Chapel Chorus.

Monday, June 13.

Hinshaw Grand Opera Quartet, Auditorium, 3:00 p. m.
Annual Concert of Choral Union, Auditorium, 8:00 p. m.

Tuesday, June 14.

Senior Class Day Exercises, Campus, 8:30 a. m. to 12:30 p. m.
Annual Meeting, Board of Regents, President's Office, 9:30 a. m.
Faculty-Senior Baseball Game, Athletic Park, 3:30 p. m.
Senior Class Play, Auditorium, 8:00 p. m.

Wednesday, June 15.

Alumni Business Meeting, Old Chapel, 3 p. m.
Alumni Reception, Women's Gymnasium, 8:30 p. m.

Thursday, June 16.

Commencement Exercises, Auditorium, 10:00 a. m.
Annual Address:
"Wonders of the Air," Hon. Willis Luther Moore,
Chief of the United States Weather Bureau.
Conferring of Degrees.
Faculty-Alumni Luncheon, Women's Gymnasium, 12:30 p. m.
(Admission by Ticket.)
Band Concert, Cadet Military Band, Auditorium, 2 p. m.
Military Drill, College Cadets, Front Campus, 3:00 p. m.
Baseball Game, Alumni vs. College First Team,
Athletic Park, 4:15 p. m.

Choral Union Concert

Monday, June 13

Program—Matinee, 3 p. m.

PART I

Overture—"Egmont" *Beethoven*
ORCHESTRA.

Quartet from "Rigoletto" *Verdi*
MRS. ILA HINSHAW, MRS. FREDERICKA DOWNING,
MR. T. F. HUGHES, MR. W. W. HINSHAW.

a. Fulfillment *McDermott*

b. Place of Dreams *Cadman*
MRS. HINSHAW.

Home to Our Mountains ("Il Trovatore") *Verdi*
MRS. DOWNING, MR. HUGHES.

Duet—Tower Scene—Miserere, ("Il Trovatore") *Verdi*
MRS. HINSHAW, MR. HUGHES.

Toreador Song ("Carmen") *Bizet*
MR. HINSHAW.

Selection—"Martha" *Flotow*
ORCHESTRA.

PART II

In Costume

Two Scenes from "Martha" *Flotow*

1. Second part of Act 1 "The Hiring Fair"

2. Act 2 Plunkett's Farmhouse"

CAST {	Lady Harriett.....	Mrs. Hinshaw
	Nancy (her maid).....	Mrs. Downing
	Lionel.....	Mr. Hughes
	Plunkett.....	Mr. Hinshaw

Place, England.

Time, Reign of Queen Anne.

Choral Union Concert

Monday, June 13

Program — Evening, 8 p.m.

PART I

Overture—"Lohengrin".....*Wagner*
ORCHESTRA.

"Oh, May Heav'n Above Forgive Thee!" Quintet and Chorus.
Finale, third act from "Martha."
MRS. HINSHAW, MRS. DOWNING,
MESSRS. HUGHES, HINSHAW, PORTER.

Drinking Song from "Martha"*Flotow*
MR. HINSHAW.

Polonaise from "Mignon"*Thomas*
MRS. HINSHAW.

Sextet from "Lucia di Lammermoor".....*Donizetti*
MRS. HINSHAW, MRS. DOWNING,
MESSRS. HUGHES, HINSHAW, BEALL, PORTER,
AND CHORUS.

On the Sea.....*Buck*
COLLEGE GLEE CLUB.

PART II.

"The Holy City".....*Gaul*
CHORAL UNION, THE HINSHAW QUARTET,
AND ORCHESTRA.

Local Notes.

Farmers' convention at Hays Branch Experiment Station, June 7 and 8.

The students of the architecture course had their picture taken Friday of last week.

President Gates, of the New Hampshire agricultural school, visited College last Thursday.

The Lincoln County High School graduates were visiting the College last Monday afternoon.

Prof. H. F. Butterfield and Mrs. Florence (Vail) Butterfield, of Mayville, N. D., report the arrival of a young son, Frank Edwin.

Thursday evening, June 2, at 8 o'clock, the Music Department will give another of their popular students' recitals, to which everybody is invited.

The interclass track meet will be held on Tuesday, May 31, in the City Park. It is planned to make this one of the great athletic events of the year.

The program for the main exercises of Commencement week will be found in another part of the INDUSTRIALIST. Several additional programs will be published in the next number.

The graduating exercises of the common schools of Riley county will be held at the Christian church, Manhattan, on the afternoon of June 3. Prof. W. A. McKeever will address the class.

State Highway Engineer W. S. Gearhart was at Mound City last Tuesday, where he attended a good roads meeting. He reports that over 500 people listened to the addresses given by Senator Hodges, Mayor Brooks, and himself.

Miss Elizabeth Putnam and Miss Charlotte Morton, of the Department of Architecture and Drawing, will spend their summer vacation at the Chicago Art Institute. Miss Putnam will teach oil and water-color work and study "cast and life." Miss Morton will take a course in designing and illustrating.

Riley County Normal Institute begins Monday, June 6. The instructors are Prof. F. W. Simmonds, superintendent of Mankato city schools, Prof. W. P. Trueblood, of Friends University, Wichita, L. W. Nutter, of the Manhattan Business College, and Miss Rose E. Hadden, principal of Riley city schools. County Superintendent Hannah Wetzig will conduct the institute. Examinations for teachers' certificates will be held July 1 and 2.

The May festival on the College campus last Wednesday afternoon was a success. About 3000 tickets were sold and, as there was practically no enclosure, hundreds attended who had no ticket. The program consisted of band music, the rendering of "Pyramus and Thisbe," a May-pole dance, a tug of war between the Juniors and Seniors, and a baseball game between the girls of the Eurodelphian and Ionian societies. The proceeds went to the Cascade fund.

Prof. A. M. TenEyck will soon move his family to Hays, where he will take charge of the Hays Branch Experiment Station. His handsome farm home west of the College will be occupied by his brother.

Pres. H. J. Waters reports the total amount of cash contributions to the fund for the construction of the new athletic field last Thursday evening at \$194.50. The cash amounts received during the week were as follows:

Bertha Olson, '97.....	\$ 1 00
James R. Coxen, '07.....	10 00
A. E. Oman, '00.....	15 00
A. E. Axelton, '97.....	1 00
C. A. Scott, '01.....	10 00

School work in agriculture becomes popular just in proportion as its economic value becomes apparent. And in this the farmer is no different from other people. Every sensible man wants a home and food and clothes and a surplus. Education should help the young man to get a living, plus, in the right way—by earning it. The schools are losing many pupils before they complete the eighth grade. The boy remains who believes it will be to his economic advantage to remain, and the boy goes out who believes it will be to his economic advantage to go out. If we are to hold boys in school by introducing agricultural science, it must be presented with its economic phase continually before the pupil. He must be made to believe that it will pay—help him to earn a living and a surplus. This is vastly more important than the logical or pedagogical presentation of it. The farmer must be helped to see that right living is quite as important as getting a living, but the educator must concede to the farmer that getting a living and getting it honestly is a prime essential in right living.—*Kansas Farmer*.

The annual concert of the Choral Union will be given June 13. There will be a matinée in the afternoon at 3 o'clock and a grand concert in the evening at eight. The Department of Music has prepared a very elaborate and interesting program. That of the matinée will consist of operatic selections rendered by the Hinshaw Grand Opera Quartet and that of the evening of grand opera selections rendered by the Choral Union and the Hinshaw Singers, with orchestra accompaniment. The second part of the evening program will be made up of the cantata "The Holy City" by Gaul. The Glee Club and the orchestra will also offer selections. Combination tickets for the afternoon and evening are on sale at a dollar a seat. Single tickets for the afternoon or the evening are seventy-five cents. The department has gone to considerable expense in providing these musical treats, and in order to insure the venture it has invited a hundred ladies of the College and city to act as patronesses. The director of the quartet, Mr. W. W. Hinshaw, has been engaged by the Metropolitan Opera Company of New York for the next three years to sing leading baritone roles in English, German, French, and Italian, and is considered the greatest living baritone of America to-day. Everyone should make an effort to hear these concerts.

Board of Instruction (concluded from second page).

Ambrose E. Ridenour, B. S. (K. S. A. C.)	Instructor in Moulding, Foreman of Foundry
J. H. Hollar	Instructor in Forging, Foreman of Blacksmith Shop
Raymond Garfield Taylor, * A. B. (University of Kansas)	Instructor in History and Civics
Miss Ina E. Holroyd, B. S. (K. S. A. C.), (K. S. N.)	Assistant in Mathematics
Miss Kate Tinkey	Assistant Librarian
Earl N. Rodell, B.S. (K. S. A. C.)	Assistant in Printing
Chas. Yost	Assistant in Heat and Power Department
Earle B. Milliard	Assistant in Machine Shops
J. T. Parker	Assistant in Woodwork
E. G. Meinzer, M. A. (Olivet College)	Assistant in German
Hugh Oliver	Assistant in Heat and Power Department
Miss Charlaire Furley, B. A. (Fairmount College)	Assistant in English
Miss Jessie Reynolds, A. B. (University of Kansas)	Assistant in History
William C. Lane, B. S. (K. S. A. C.)	Assistant in Electrical Engineering
Miss Flora C. Knight, A. B. (University of Wyoming)	Assistant in English
Miss Grace H. Woodward (Boston School of Domestic Science)	Asst. in Domestic Science
Miss Margaret A. Mack (Kansas State Normal School)	Assistant in History
C. A. Arthur Utt, M. S. (Cornell College)	Assistant in Chemistry
Miss Anna Gordon, A. B. (Iowa College)	Assistant in History
S. W. McGarrah, M. A. (Grove City College)	Assistant in Mathematics
Harrison E. Porter, B.S. (K. S. A. C.)	Assistant in Mathematics
J. B. Parker, M. A. (Ohio State University)	Assistant in Entomology
Allen G. Phillips, B. S. (K. S. A. C.)	Assistant in Poultry
Miss Gertrude Cannon (Bethany College) (Oberlin Conservatory)	Assistant in Music
Miss Bertha Bisby	Assistant in Mathematics
Fred M. Hayes, D. V. M. (K. S. A. C.)	Assistant in Veterinary Science
Miss Bertha Donaldson (University of Chicago)	Assistant in Domestic Art
B. S. Orr, B. S. (K. S. A. C.)	Assistant in Mechanical Engineering
Elmer Johnson, B. S. (K. S. A. C.)	Assistant in Mechanical Engineering
Miss Elizabeth Putnam (Chicago Art Institute)	Assistant in Drawing
L. E. Petty, A. B. (Wabash College)	Assistant in Mathematics
James C. Cunningham, B. S. (K. S. A. C.)	Assistant in Horticulture
Miss Annie E. Lindsey (Simmons College)	Assistant in Domestic Science
John E. Smith, B. S. (Oregon Agricultural College)	Assistant in Botany
R. C. Wiley, B. S. (Oklahoma A. & M. College)	Assistant in Chemistry
Thomas Powell Haslam, B. S. (K. S. A. C.)	Assistant in Veterinary Science, Agr. Exp. Sta.
Miss Amy Allen, B. S. (K. S. A. C.)	Assistant in Printing
Porter J. Newman, B. S. (Franklin College)	Assistant in Chemistry
C. E. Griffin, M. S. (University of Michigan)	Assistant in Chemistry
C. W. Nash, B. S. (Iowa State College)	Assistant in Crops
Chas. Doryland, B. S. (K. S. A. C.)	Assistant in Soils
R. C. Thompson, B. S. (K. S. A. C.)	Assistant in Chemistry
R. H. Wilson, D. V. M. (K. S. A. C.)	Assistant in Bacteriology
Miss Helen Huse, B. S. (K. S. A. C.)	Assistant in Domestic Science
E. F. Kubin, D. V. M. (K. S. A. C.)	Assistant in Veterinary Science
A. B. Nystrom, B. S. (K. S. A. C.)	Assistant in Dairy Husbandry
A. Miyawaki, M. S. (K. S. A. C.)	Assistant in Experimental Dairying
Miss Ethel Byerly, (Drexel Institute)	Assistant in Domestic Art
T. G. Patterson, B. S. (University of Minnesota)	Assistant in Animal Husbandry
Mrs. Jessie Gulick	Assistant in Library
Miss Mary Mudge, B. S. (K. S. A. C.)	Assistant in Library
Miss Estella M. Boot, M. A. (Northwestern University)	Assistant in English
J. R. Jenness, B. S. (Denison College)	Assistant in Physics
Harry Evans, B. S. (Ohio State University)	Assistant in Entomology
Miss Ada Baum (Chicago Musical College)	Assistant in Music
Miss Ethel K. M. Ping (Sherwood Music School)	Assistant in Music
E. P. Johnston, A. B. (Oberlin College) (Emerson Coll. of Oratory)	Asst. in Public Speaking
Dean H. Rose, M. A. (Washington University, St. Louis)	Assistant in Botany
Miss Anna Monroe, B. S. (K. S. A. C.)	Assistant in Botany
Miss Madge Kay, B. S. (University of Chicago)	Assistant in Mathematics
C. A. Jackson, B. S. (Purdue University)	Assistant in Mathematics
D. O. Stone, C. E. (Cornell University)	Assistant in Civil Engineering
Paul W. Graff, B. S. (Connecticut Agricultural College)	Assistant in Botany
T. R. H. Wright, B. S. A. (University of Missouri)	Assistant in Animal Husbandry
L. A. Chase	Assistant in History
Henry Wagner	Assistant in Heat and Power
A. E. White, M. S. (Purdue University)	Assistant in Mathematics
H. W. Edson, A. M. (Harvard University)	Assistant in English
Miss Charlotte Augusta Morton, B. S. (K. S. A. C.)	Assistant in Drawing
Miss Jennie Florence Ridenour, B. S. (K. S. A. C.)	Assistant in Domestic Art
M. R. Bowerman, B. S. (Michigan Agricultural College)	Assistant in Mechanical Engineering
Frank C. Harris, B. S. (K. S. A. C.)	Assistant in Architecture and Drawing
James Henry Burt, V. S. (Ontario Veterinary College)	Assistant in Veterinary Science
Miss Florence Warner, A. B. (University of Illinois)	Cataloguer in Library
Miss Ada Herr, A. M. (University of Michigan)	Assistant in History
John Willard Calvin, B. S. (K. S. A. C.)	Assistant in Animal Nutrition
Carl Fred Chase (Nebraska School of Agriculture)	Assistant in Agronomy
Edward Staat Estel, B. S. (Iowa State College)	Assistant in Dairying
Miss Clara Orton Smith, B. S. (Ohio State University)	Assistant in Domestic Science
Miss Ella Frances Miles (Macdonald Institute, Ont. Agr. Coll.)	Assistant in Domestic Science
George August Westphalinger, Chief Musician U. S. Army (retired)	Band Leader
Miss Ida Ethel Rigney, B. S. (K. S. A. C.)	Assistant in Domestic Science
Miss Margaret Anna Butterfield	Secretary
William Riley Lewis	Custodian
Edward Claeren, Commissary Sergeant, U. S. Army (retired)	Assistant to the Commandant
William Asa Lamb	Superintendent of Poultry Husbandry
Floyd Howard	Farm Foreman
Karl Nystrom	Dairy Herdsman
Alexander Edgar	Herdsman

THE INDUSTRIALIST

Vol. 36

Saturday, June 4, 1910

No. 30

Issued Weekly By
Kansas State Agricultural College
Manhattan, Kansas



~~~~~  
*Published by*  
**PRINTING DEPARTMENT**  
*J. D. Rickman, Supt.*

Entered at post-office, Manhattan, Kan., as second-class matter. Act of July 16, 1894.

# THE INDUSTRIALIST.

|                         |                 |
|-------------------------|-----------------|
| PRES. H. J. WATERS..... | Editor-in-Chief |
| DR. J. D. WALTERS.....  | Local Editor    |
| DR. J. T. WILLARD.....  | Alumni Editor   |

## BOARD OF REGENTS.

|                                                       |              |
|-------------------------------------------------------|--------------|
| HON. W. E. BLACKBURN, President.....                  | Anthony      |
| HON. J. O. TULLOSS ['99], Vice-President.....         | Sedan        |
| HON. EDWIN TAYLOR.....                                | Edwardsville |
| HON. ARTHUR CAPPER.....                               | Topeka       |
| HON. A. L. SPONSLER.....                              | Hutchinson   |
| HON. TOM BLODGETT.....                                | Wichita      |
| PRES. H. J. WATERS, Secretary <i>ex-officio</i> ..... | Manhattan    |

## BOARD OF INSTRUCTION

|                                                                                                |                                                          |
|------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| HENRY JACKSON WATERS, B. S. A. (University of Missouri).....                                   | President of the College                                 |
| JOHN DANIEL WALTERS, D. A. (K. S. A. C.).....                                                  | Professor of Architecture and Drawing                    |
| JULIUS T. WILLARD, D. Sc. (K. S. A. C.), Prof. of Chem, V.-Director Exp. Sta., Dean of Science |                                                          |
| JOSHUA D. RICKMAN.....                                                                         | Superintendent of Printing                               |
| BENJ. L. REMICK, Ph. M. (Cornell College).....                                                 | Professor of Mathematics                                 |
| BENJ. F. EYER, E. E. (Armour Institute of Technology).....                                     | Prof. of Electrical Engineering                          |
| HERBERT F. ROBERTS, M. S. (K. S. A. C.).....                                                   | Professor of Botany                                      |
| WILLIAM A. MCKEEVER, Ph. M. (University of Chicago).....                                       | Professor of Philosophy                                  |
| EDMUND B. MCCORMICK, S. B. (Mass. Inst. of Tech.).....                                         | Prof. of Mech. Eng., Dean of Mech. Arts                  |
| ALBERT DICKENS, M. S. (K. S. A. C.).....                                                       | Professor of Horticulture, Supt. of Grounds              |
| CLARK M. BRINK, Ph.D. (U. of City of N. Y.).....                                               | Prof. of English, Dean of the Coll., Asst. to Pres.      |
| ALBERT M. TEN EYCK, B. Agr. (University of Wisconsin).....                                     | Prof. of Agronomy, Supt. of Farm                         |
| RALPH R. PRICE, M. A. (University of Kansas).....                                              | Professor of History and Civics                          |
| JULIUS E. KAMMEYER, M. A. (Central Wesleyan College).....                                      | Professor of Economics                                   |
| JOHN V. CORTELYOU, Ph. D. (Heidelberg).....                                                    | Professor of German                                      |
| OLOF VALLEY, B. M. (Chicago Conservatory).....                                                 | Professor of Music                                       |
| F. S. SCHOENLEBER, D. V. S. (Chicago Vet. College).....                                        | Professor of Veterinary Science                          |
| ROLAND J. KINZER, B. S. A. (Iowa State College).....                                           | Professor of Animal Husbandry                            |
| JOHN H. MILLER, M. A.....                                                                      | Superintendent Farmers' Institutes                       |
| WALTER E. KING, M. S. (Cornell University).....                                                | Professor of Bacteriology                                |
| THOMAS J HEADLEE, Ph. D. (Cornell University).....                                             | Professor of Entomology                                  |
| CHAS. H. BOICE, First Lieutenant Seventh Cavalry, U. S. A.....                                 | Professor of Military Science                            |
| JOHN C. KENDALL, B. S. (New Hampshire A. & M. College)....                                     | Professor of Dairy Husbandry                             |
| JOHN O. HAMILTON, B. S. (University of Chicago).....                                           | Professor of Physics                                     |
| MRS. MARY P. VANZILE, (Iowa State College)....                                                 | Prof. of Domestic Science, Dean of Women                 |
| ED. H. WEBSTER, B. S. A. (Ia. S. C.), M. S. (K. S. A. C.).....                                 | Director Exp. Sta., Dean of Agriculture                  |
| LOWELL E. CONRAD, M. S. (Lehigh University).....                                               | Professor of Civil Engineering                           |
| MISS ANTONETTA BECKER (Drexel Institute).....                                                  | Professor of Domestic Art                                |
| CHARLES A. SCOTT, B. S. (K. S. A. C.).....                                                     | State Forester                                           |
| LESLIE ARTHUR FITZ, B. S. (K. S. A. C.).....                                                   | In Charge of Department of Milling Industry              |
| EDWIN LEE HOLTON, A. B. (University of Indiana).....                                           | Professor of Rural Education                             |
| ANDREY A. POTTER, * S. B. (Mass. Inst. of Tech.).....                                          | Professor of Steam and Gas Engineering                   |
| ROY ANDREW SEATON, † B. S. (K. S. A. C.).....                                                  | Professor of Applied Mechanics and Hydraulics            |
| MISS MARGUERITE E. BARBOUR (Sargent Nor. Sch. Phys. Tr.), Director of Physical Training        |                                                          |
| MISS GERTRUDE A BARNES.....                                                                    | Librarian                                                |
| JAMES WILLIAM SEARSON, * A. M. (University of Nebraska)....                                    | Associate Professor of English                           |
| JACOB LUND, M. S. (K. S. A. C.).....                                                           | Superintendent Heat and Power Department                 |
| ROBERT H. BROWN, B. M. (Kan. Con. of Music), B. S. (K. S. A. C.).....                          | Asst. Professor of Music                                 |
| GEO. A. DEAN, M. S. (K. S. A. C.).....                                                         | Assistant Professor of Entomology                        |
| WILLIAM H. ANDREWS, A. B. (University of Chicago)....                                          | Assistant Professor of Mathematics                       |
| GEO. C. WHEELER, B. S. (K. S. A. C.).....                                                      | Lecturer on Farm Management, Extension Department        |
| ROBERT E. EASTMAN, M. S. (Cornell University).....                                             | Assistant Professor of Forestry                          |
| LELAND E. CALL, B. S. (Ohio State University).....                                             | Assistant Professor of Soils                             |
| PLEASANT E. CRABTREE.....                                                                      | Lecturer on Farm Management, Extension Department        |
| K. W. STOUDEER, D. V. M. (Iowa State College).....                                             | Assistant Professor of Veterinary Science                |
| LEONARD W. GOSS, D. V. M. (Ohio State University)....                                          | Asst. Professor of Veterinary Science                    |
| MISS ULA M. DOW, B. S. (K. S. A. C.).....                                                      | Assistant Professor of Domestic Science                  |
| H. H. KING, M. A. (Ewing College).....                                                         | Assistant Professor of Chemistry                         |
| JOHN B. WHELAN, M. A. (University of Nebraska).....                                            | Assistant Professor of Chemistry                         |
| C. O. SWANSON, M. Agr. (University of Minnesota).....                                          | Asst. Prof. of Agricultural Chemistry                    |
| ROBT. J. BARNETT, B. S. (K. S. A. C.).....                                                     | Assistant Professor of Mathematics                       |
| LOUIS H. BEALL, A. B. (Denison College).....                                                   | Assistant Professor of English                           |
| GEO. E. BRAY, M. E. (University of Minnesota).....                                             | Asst. Prof. Mech. Engineering, Supt. of Shops            |
| WILMER E. DAVIS, M. S. (University of Illinois).....                                           | Assistant Professor of Botany                            |
| F. G. KING, B. S. A. (University of Missouri).....                                             | Assistant Professor of Animal Husbandry                  |
| CLARENCE VICTOR HOLSINGER, B. S. (K. S. A. C.).....                                            | Lecturer on Horticulture, Extension Dept.                |
| FRANCES LANGDON BROWN, B. S. (K. S. A. C.), Lecturer on Domestic Science, Extension Dept.      |                                                          |
| CLAUDE HARRISON HINMAN, A. B. (Univ. of Neb.).....                                             | Lecturer on Dairying, Extension Dept.                    |
| WALTER SCOTT GEARHART, B. S. in C. E. (U. of Missouri)....                                     | Highway Engr., Extension Dept.                           |
| MISS ADA RICE, B. S. (K. S. A. C.).....                                                        | Instructor in English                                    |
| MISS ELLA WEEKS, A. B. (University of Kansas).....                                             | Instructor in Drawing                                    |
| MISS DAISY ZEININGER, B. A. (Fairmount College).....                                           | Instructor in Mathematics                                |
| THEOPHILUS H SCHEFFER, M. A. (Cornell University).....                                         | Instructor in Zoölogy                                    |
| LELAND DAVID BUSHNELL, B. S. (University of Michigan).....                                     | Instructor in Bacteriology                               |
| MICHAEL FRANCIS AHEARN, B. S. (Massachusetts Agr. College)....                                 | Instructor in Horticulture                               |
| BURTON RAY ROGERS, D. V. M. (Iowa State College).....                                          | Instructor in Veterinary Science                         |
| KIRK HAROLD LOGAN, A. B. (University of Kansas).....                                           | Instructor in Physics                                    |
| MISS CLARA WILLIS (Framingham Normal Institute).....                                           | Instructor in Domestic Science                           |
| MISS INA FOOTE COWLES, B. S. (K. S. A. C.).....                                                | Instructor in Domestic Art                               |
| MISS GERTRUDE STUMP, B. S. (K. S. A. C.).....                                                  | Instructor in Domestic Art                               |
| MISS ANNETTE LEONARD, A. B. (University of Kansas).....                                        | Instructor in English                                    |
| WILLIAM LEONARD HOUSE.....                                                                     | Instructor in Woodwork, Foreman of Carpenter Shop        |
| LOUIS WABNITZ.....                                                                             | Instructor in Machine Tool Work, Foreman of Machine Shop |

\*Beginning September 1, 1910. †On leave of absence during season 1909-'10.

(Board of Instruction concluded on last page.)



# THE INDUSTRIALIST

VOL. 36.

MANHATTAN, KAN., JUNE 4, 1910.

No. 30

## Forest Conditions in Central and Western Kansas.

Excerpted from Experiment Station Bulletin No. 165, Prof. Albert Dickens, State Forester.

The recognized need of a vigorous forestry policy and an aggressive campaign for tree planting on every farm in Kansas prompted the legislature of 1909 to pass the following forestry bill, which was signed by Governor Stubbs on March 8 and became effective on March 15, 1909:

### SENATE BILL No. 231.

AN ACT to establish at the Kansas State Agricultural College a division of forestry under the direction of the Board of Regents of that institution, and appropriating funds for the support of same, and repealing chapter 405 of the Session Laws of 1907.

*Be it enacted by the Legislature of the State of Kansas:*

SECTION 1. For the promotion of forestry in Kansas there shall be established at the Kansas State Agricultural College, under the direction of the Board of Regents, a division of forestry. The Board of Regents of the Kansas State Agricultural College shall appoint a State forester who shall have general supervision of all experimental and demonstration work in forestry conducted by the Experiment Station. He shall promote practical forestry in every possible way, compile and disseminate information relative to forestry, and publish the results of such work through bulletins, press notices, and in such other ways as may be most practicable to reach the public, and by lecturing before farmers' institutes, associations and other organizations interested in forestry.

SEC. 2. The State forester shall employ, under the direction of the Board of Regents of the Kansas State Agricultural College, such assistants, who shall be practical foresters, laborers and clerks, and shall purchase necessary office furniture and equipment as may be needed to carry into effect the purposes of this act.

SEC. 3. The State forester shall, upon request, coöperate with towns, counties, corporations and individuals in preparing planting plans and plans for the protection, management and replacement of trees, wood lots and timber tracts under an agreement that the persons obtaining such assistance shall pay the field expenses of such work.

SEC. 4. The Board of Regents of the State Agricultural College may also conduct on the Dodge City and Ogallah Stations other demonstrations and experiments of local interest, such as seed breeding and tillage experiments, whenever such demonstrations may not interfere with the work in forestry.

SEC. 5. For carrying the provisions of this act into effect there shall be appropriated from moneys in the State treasury, not otherwise appropriated, the sum of one thousand dollars for the fiscal year ending June 30, 1909; two thousand dollars for the fiscal year ending June 30, 1910, and two thousand dollars for the fiscal year ending June 30, 1911. All vouchers for salaries and other expenses shall be paid in the same manner as expenses of the Kansas State Agricultural College.

SEC. 6. The Forestry Stations at Ogallah and Dodge City shall remain the property of the State for the purpose of conducting experimental and demonstration work in forestry under the direction of the Board of Regents of the State Agricultural College, who shall have all power in relation thereto now exercised by the Executive Council. And for the purpose of maintaining said Stations and for the purchase of trees, plants, seeds and cuttings, and for the payment of other incidental expenses, there is hereby appropriated the following sum, or as much as may be necessary. . . .

At the first meeting of the Board of Regents after the passage of the bill, as a preliminary measure to get the new work under immediate headway, Albert Dickens, professor of horticulture and forestry at the Kansas State Agricultural College, was appointed State forester. A reorganization of the work at the Dodge City and Ogallah Stations was at once undertaken in conformity with the provisions of the law. Mr. Christian Jensen, a man of experience and training in forest nursery and tree-planting work, was selected as assistant forester and placed in charge of the Dodge City Station. Mr. Jensen had received his training in forestry at the Biltmore estate, Asheville, N. C., under Doctor Schenck, and had several years' experience in nursery work in Iowa and Kansas. Mr. Turner, a practical farmer and a man of considerable experience in nursery work, was employed as foreman of the Ogallah Station.

The appointment of Professor Dickens as State forester was recognized by him as a temporary arrangement until such time as he could recommend the appointment of a permanent State forester who could devote his entire time to the work. The Forestry Service of the United States Department of Agriculture was asked to recommend a man who had the ability and training to undertake the duties of State forester as prescribed by the law. Very happily the Regents were able to secure the man recommended by the Forestry Service.

At the January, 1910, meeting of the Board of Regents Professor Scott, a graduate of this College, was elected State forester, and he has accepted and will enter upon his duties June 1, 1910. The work at the Stations at Dodge City and Ogallah will be supplemented by extensive work to be conducted at the Fort Hays Branch Station. The office of the State forester will be at Manhattan, Kan.



The following excerpts from the report submitted by Professor Dickens gives the results of his work at the Ogallah and Dodge City Stations under the new law, and sums up his experience of twenty or more years of careful observation and study of the forest conditions in Central and Western Kansas:

The forestry work that has been done in Central and Western Kansas in the past quarter century has resulted in a large number of good tree plantations, many poor ones, some total failures and as might be expected a great variety of opinions concerning the possibility of growing forest trees in the various soils and situations found in the State. Theories, opinions and notions are easily manufactured. Frequently more ardor is exhibited in defending a notion than in securing facts, but the lessons that are valuable for the present and future settlers on the plains of Kansas must be drawn from facts.

Explanations concerning the treelessness of Kansas prairies have been plentiful, varying from the effects of wind and sun to the presence in the soil of substances and organisms which are fatal to tree growth, but any explanation that in any degree explains must give large measure of importance to the effects of fire.

Early settlers remember the story of an old Indian who was the last of his tribe to leave the headwaters of the creeks now known as the Kiowas, how they attempted to discourage winter visits of northern tribes by burning the prairies north of the Arkansas. The deer and buffalo would desert the burned tracts and the roving Indian would find no pasture for his war horse or pack pony. Other years his northern neighbors reached the river with a friendly north wind and then the fire raged to the creeks of the Cimarron watershed. And all the time the fire was the factor that kept the timber growth from encroaching upon the domain of the prairie. In Central and Western Kansas the natural timber is restricted to very narrow belts along the streams.

Wherever the banks were sufficiently broken to check the fires, timber grew. Numerous examples of this might be given, taken from many localities. A striking example is furnished by Cedar Bluffs, in southern Trego county. The Smoky Hill river runs along the foot of the bluffs, cutting very close to the rocky ledge at each point of a crescent, the points being something over a half mile apart. The limestone bluffs rise almost perpendicularly to heights of from fifty to one hundred feet, furnishing in combination with the river a very efficient protection from fire. In this protected spot, high above the stream, the red cedar has for ages declared its ability to withstand any hardship except fire.

In Hodgeman county, Buckner creek furnishes another example. The creek has cut through the deep soil, leaving occasional high banks, and in the creek bed good growths of hackberry, elm, willow and cottonwood are common.

The Arkansas and Cimarron rivers and their Kansas tributaries flow for the greater part of their lengths through alluvial soils. There are few rocky ledges and few high banks, and for the most part the prairie grass grows up to the very edge of the low bank. Wherever banks or broken surface afford protection, trees were found.

The need of the early settler for fuel was imperative. The wood contract was necessary for the existence of the frontier army post, and the few trees that might have produced seed for extending the forest area of Kansas were cut to provide for the soldier and settler. The vicinity of every army post has the same story. Mulberry creek and Crooked creek provided for Fort Dodge; the Pawnee and Walnut creeks for Fort Larned.

At Fort Hays, the limits of the old reservation may be easily noted by the trees which were preserved by the government. The wood contracts were filled from the land outside the reservation, and nearly every tree large enough to make fuel was sacrificed to provide for the advance guard of civilization.

A distance of forty-five miles seemed to mark the limit of profitable wood contracts, and on Crooked creek, about that distance southwest of Fort Dodge, some few of the big trees, mostly hackberry and black walnut, are still standing. The few that escaped the ax of the pioneer are those whose form made them hard to work for fuel and difficult to split into posts. One of the largest of the black walnut trees measures four feet in diameter at five feet from the ground, and is fifty feet high. Like most large trees in Western Kansas, it exhibits the type which is best fitted to survive under such conditions—short trunk with a widespreading top which protects the stem and the soil about it from the burning sun of summer. In one locality where the land adjoining Crooked creek has been protected from fire for a quarter century the timber is making considerable headway in its contest with the prairie.

Since the prairie fires have been restricted and the fuel need of the settler supplied by the coal miner and freight car, the area of natural timber has increased at a most gratifying rate. Thirty years ago the Arkansas, west of Hutchinson, and its tributaries from the south, were practically devoid of trees. To-day there are many acres that are under forest conditions and the forest



area is increasing. Most of this growth is cottonwood and willow, species that produce large quantities of seed that is blown long distances and germinates very soon after ripening. Species that produce heavier seeds are not so readily distributed, and the time required for their distribution over a given area is very much greater. With Nature's slow methods centuries of the most favorable conditions would probably be required to extend the area of heavy-seeded species, but as the forest area increases the forest inhabitants—birds, squirrels and other animals—increase in numbers, and these agents of distribution help, very slowly but surely, in the introduction of other species. The increase of forest area in the past has been confined for the most part to the alluvial soils of the valleys; soils easily change from prairie to forest because the soil is easily penetrated by roots and well adapted to nearly any forms of plant life.

Nature extends the forest back from the streams along ravines and broken surfaces, and works from these back into the upland prairie. The struggle for existence between prairie and forest is a bitter one. The species is indeed fit to survive that can compete for existence with the drought-enduring buffalo grass. But in the few localities where the buffalo grass has been deprived of its allies, fire and cattle, the forest is making progress. A few years' growth of buffalo grass accumulates, the rainfall is held for a longer time by the mulch on the soil, the buffalo grass itself grows stronger and roots deeper, but its prosperity augurs defeat, for the bunch grass encroaches, then takes possession, and is succeeded by blue stem, the roots ever growing deeper and the soil mulch heavier. Very little rainfall now escapes. The buffalo grass lying close to the ground, packed by hoofs and baked by sun, held little water; but now the drought cannot wilt the blue stem with its roots five feet deep, making a way for the soil water. Then the shade from the trees, which have all the time been gaining in size, favors the horsetweed, the buckbush and sumac appear, and these make a nurse crop for the tree seed; and up the slope, following the bunch-grass scouts and the skirmish line of sumac, the forest trees proclaim their title to the soil. The sermon they preach over and over is that even the driest, hardest soils may grow trees if only the soil be prepared for their needs. The difference in the adaptability of soils for trees was not easily appreciated by the early settlers, and the fact that on the uplands many failures resulted from even well-planned efforts, has been discouraging. Later investigations concerning soil conditions have added to the knowledge of these soils facts which make it

surprising that so many successes resulted from plantings made in soils so poorly adapted to their growth, and also the encouraging fact that most of the Kansas prairie soils improve rapidly with proper cultivation.

Professor TenEyck, of the Kansas State Agricultural College, in securing soil samples from high prairie where the buffalo grass was the only growth, found it impossible to drive the soil tube or even a soil augur deeper than two feet into the soil. Yet such soils after a few years of cultivation and good farming show a measurable quantity of soil water to a depth of four or five feet.

The soil loosened by plowing and cultivation holds the moisture, which penetrates a little deeper; the roots of plants follow and open the way for more water to moisten to a greater depth. The length of time required to insure any given depth of soil moisture varies, of course, with the season and the character and composition of the soil, but in every soil good farming is the great factor in soil improvement.

It is now hard to realize that men seemed to expect the same results on the high buffalo grass lands as on the valley soils. But the optimism of the settler was too often pure enthusiasm with not even a trace of cool judgment. Many times a small hole was dug in the buffalo grass sod, a tree crowded into it, and when it failed to survive such a severe change of conditions the optimist turned pessimist and was sure that Nature had placed the ban upon tree life and that it was "flying in the face of Providence" and "combating Nature's irrevocable laws" to attempt to grow trees under such conditions. Often the tree was killed by supposed kindness. Water was poured into the small area of loosened soil, poured in frequently and abundantly and at great cost of time and labor, and the soil held the water, the tree stood in mud, with none of the life-giving oxygen in the soil about its roots, and it drowned.

A long drive in any of the western counties is certain to afford an opportunity to note how hard a struggle some trees can endure. Occasionally the long line of the prairie is broken by the survivors of a hedge row or line of road trees set in the days of the "first invasion" of the cattle country, in the later eighties. Set in a narrow strip of breaking that marked the line of the "claim," neglected for years, they have been protected only by the deeply worn ruts of a trail which forms a poor substitute for a fire guard. In hot, dry summers they were browsed by cattle, hungry for something besides the brown buffalo grass, and in winter were gnawed by horses high as the starving creatures



could reach. Their poor misshapen trunks and bush-like tops tell the story of hard times that are gone. They are sad reminders of the day when optimism ran riot and theories of agriculture expounded by novices fresh from the office and shop were rife in the land. On the opposite page of the prairie, a page made of the same material and exposed to the same sun and wind and storm, is written large the story of the trees planted by the man who tried—the man who used thought rather than theory, and who in the hard years gave the soil opportunity to secure every ounce of moisture that fell, and then worked to help the soil hold it.

There are enough successful plantations throughout the West to furnish lessons for future planters. A study of the successes and failures resulting from the plantings made in Western Kansas forces the conclusion that the factors which determine success or failure are, soil preparation, selection of species, and condition of tree when set. The seasonal variation, particularly as regards rainfall, constitutes a factor of uncertainty, but with the three controllable factors all favorable there have been very few seasons when tree plantations have not attained a very fair measure of success.

In 1887 the legislature established two Stations for work in forestry, one about one and one-half miles west of Ogallah, in Trego county, and the other nearly three miles east of Dodge City, in Ford county. Both of these Stations are located on high prairie land that is representative of the greater part of the western third of Kansas.

The work of these Stations for the most part has been that of growing and distributing forest-tree seedlings to citizens of the State.

It is quite evident that the plantations at these Stations have not always received the best of care, for in some tracts the grass has encroached upon the plantations and only the hardiest species have had sufficient vitality to survive the struggle. Cultivation ceased before the trees were of sufficient size to shade the ground and prevent the wind from blowing the leaves from the site of the plantation. In one or two cases fire has evidently burned over part of the plantation, destroying many trees and all the soil cover. Considering the hardships endured by these plantations they offer great encouragement to the citizen who wishes to make his home in Western Kansas a place where life may mean more than the mere making of money.

Of the recent work of the Stations at Dodge and Ogallah the bulletin says:

In addition to the work incident to the collection of data concerning the natural and artificial forest resources and possibilities of Kansas, the Stations at Dodge City and Ogallah have been maintained. Their equipment has been increased by the purchase of teams and implements and the plantings of forest trees put into condition to prevent any future injury from fire and to enable them to make the best of the conditions under which they are growing. In other words, the purpose now is to give these trees, that are expected to furnish encouragement and object lessons for future planters, a fair chance and a "square deal" by maintaining effective fire guards and such soil conditions as seem best for the securing of the forest conditions under which they may succeed. The breaking up of the sod has been the first requisite, and in future the conditions needed for the conservation of soil and moisture will be maintained so far as is possible.

Planting of shade-enduring species will be undertaken where the trees are too few to furnish shade for the protection of soil and stem. Species which have demonstrated their ability to succeed will be most used and in numbers which will furnish a basis for accurate estimates of their rates of growth and their general value.

Demonstrations in other agricultural lines authorized by the legislature have been begun. The possibility of preparing soil for trees by the use of preceding crops is the main object undertaken, but the value of the cow-pea in furnishing a protein feed for localities where other legumes have not been introduced was incidental to its use in preparing soil for tree purposes. A comparison of the value of milo maize, both dwarf and standard varieties, with the Kafir-corns, was begun and will be continued.

The season was less favorable at the Dodge City Station, but good crops of fodders were obtained. Demonstrations of the value of improved seed wheat are also under way on land not yet required for the work with trees.

The wholesale distribution of seedlings undertaken by these Stations in the past has not been productive of the good intended. The evil of setting poorly handled trees in poorly prepared soil has been discussed in this report, and it is not proposed to continue this evil. The nursery efforts will be in the direction of ascertaining means of producing trees which are best adapted to Western Kansas conditions and ascertaining the added value and the feasibility of the planting by general farmers of seeds where the trees are to stand.

Trees grown by these Stations will be used in demonstrations



made in coöperation with individuals, school districts, counties and towns, and careful investigation will be made as to the preparation of the soil and adaptation of trees for the several locations.

It is the hope of the State Experiment Station that through the office of State forester the facts concerning tree growth and the probabilities of success with the various species may be so widely disseminated that a much greater degree of success may attend future efforts in tree planting. It is certain the proper preparation of soil and correct selection of species should precede any planting.

There are many localities, particularly in Central Kansas, where plantations for post and pole purposes are as nearly certain to produce very good profits as are any agricultural investments. The office of State forester will attempt to advise prospective planters concerning the adaptation of species to soils and locations and as to the best methods of soil preparation. When possible, planting plans will be prepared showing the details of distance and proportion of species. It is not considered advisable to undertake to make plans for areas smaller than two acres, but all possible advice and help will be given regardless of the area under consideration. Advice concerning public grounds will be undertaken and plans prepared for the planting of trees for school grounds. It is believed that many districts in the State can well afford to add a few acres to the school grounds for the planting of a demonstration wood lot. This should be particularly true of districts where consolidated schools are maintained. An acquaintance with trees, their requirements and their values, is an essential part of a well-balanced education and furnishes a means of mental growth as well as a fund of useful information.

A grove of well-grown trees is a valuable possession for any municipality, providing a location for public gatherings and adding in many ways to the comforts and amenities of life in country and town. Such a plantation has a financial as well as a landscape value, and in years to come a grove of good timber will be a valuable resource for any owner.

In or near many towns there are areas of varying size, ravines or low land, that are now unsightly spots, but which might be transformed into bits of woodland that would add charm to the landscape and in time to the wealth of the community.

On many farms there are ravines forming along the lines of drainage that if planted to trees might produce posts, poles and fuel for the farm and at the same time check the force of the water and lessen the amount of good soil that washes down the

creek to increase the delta of the Mississippi and the expense of the deep waterway project. Good citizenship should demand that the owner of land protect it, conserve and increase its resources, as he would have the state and the nation protect and improve the public domain. To help in this work of making Kansas utilize all of her acres to the best possible purpose, to make the ravines, hillsides and bends of the streams produce crops for which they are best suited and by which they may add to the wealth and welfare of their owners and the State, is the object of the office of State forester.

---

### **William Jones Griffing, '83.**

The neighborhood was sadly surprised Friday, May 20, by the news of the death of W. J. Griffing, '83, which resulted from an attack of pneumonia of less than a week's duration. So sudden was it that many friends did not know he was ill.

Will Griffing, as he was familiarly known, was born near Topeka, November 20, 1860, and during the first ten years of his life lived at various places, as his father, being a Methodist minister, was moved about more or less. In 1870 the family settled on the College Hill farm that for forty years was the home of our friend.

He entered College and was graduated with the class of 1883, his father's death and consequent added responsibilities for the young man having delayed that event somewhat. In 1884 he and Miss Hattie Clarke were married, and since then they have shared together the hopes and disappointments, the failures and the successes of farming and fruit raising. Four children have brought them happiness. The oldest, Augusta, '04, married H. V. Harlan, a classmate; the second, May, '08, married Claude C. Cunningham, '03; twin boys remain with their mother to aid her in carrying life's burdens.

Mr. Griffing was a quiet, unobtrusive man. He never placed himself in the lime-light or waged a controversy, but in a large sense he may be truly taken as a legitimate, typical product of the Agricultural College—one whose education added to his enjoyment of life and made him a better farmer and a better citizen. Upon such as he the stability of our government depends.

Moreover, he was not so engrossed by the cares of his business that he could give no thought to anything else. As a young man he early became interested in study of the Indian mounds of the vicinity, and maintained this throughout his life. He was a member of the Quivera Historical Society, which gave much time to



attempts to identify the localities in Kansas visited by Coronado in the sixteenth century. It erected the monument in memory of Chief Tattarax, located in the Manhattan City Park, and three others at Alma, Herington, and Logan Grove, near Junction City. He was also a member and a director of the Kansas State Historical Society.

Mr. Griffing exhibited a gentle humor that will be long remembered by his student friends and his later ones. A loving husband and father, an upright man, a peaceable neighbor and a loyal citizen—the College family may well pause to drop a tear on the turf that covers him, and to minister to the widow and the fatherless who mourn him.—*J. T. W.*

---

## Names for the New Catalogue.

Students who wish to have the new catalogue sent to prospective students may leave names now with Miss Kittell, in the office of the Extension Department. All students will receive the catalogue by mail as soon as it is published. All graduates of Kansas high schools will also receive the catalogue, and envelopes are now being addressed for both students and high school graduates. Names of others may be left at any time in Room 35, Anderson Hall.

---

The senior class will present the college comedy drama, "Cupid at Vassar," at the Auditorium, Tuesday, June 14. It is a typical, up-to-date college play, full of funny situations, and contains a plot that carries one clear through to the end with an interest and an enthusiasm that is irresistible. The choruses will be a special feature. Seats should be procured early, as there is always a rush for the annual senior play. Tickets are now on sale at Knostman's, Elliot's, Manhattan Candy Kitchen, Coöperative Bookstore, and College Bookstore. These tickets will be exchanged for reserved seat tickets Monday, June 13. Place to be announced later.

---

Last April, when the copy for the annual catalogue was being prepared, the Secretary found a total of student attendance for the year of 2281. Since then 12 students (mostly teachers) have enrolled to take courses in special sciences or in special technical work, and 17 new students have entered the summer course in domestic science, which brings the total attendance up to 2310, or two more than last year and 128 more than the year before last.

## Local Notes.

The Junior-Senior banquet Saturday night of last week, was a big success.

Miss Frances L. Brown was at Eureka recently, where she addressed the people of the city on the advisability of adding domestic science to the curriculum of the city schools.

We again draw attention to the great farmers' convention at Fort Hays Experiment Station, June 7-8, held under the auspices of the College Extension Department. It will probably be the largest meeting of its kind ever held in the State and will be addressed by experts from all parts of the country. The commercial club of Hays will see that all participants are properly cared for.

The Memorial Day program was interfered with last Monday morning by a storm. Just as the parade was ready to start for the cemetery a rain seemed so imminent that the procession was disbanded. The College cadet corps, headed by the College band, were on the street and made a fine appearance, but they barely escaped the rain. In the afternoon the horizon cleared up and the attendance at that part of the program was large.

Pres. H. J. Waters reports the total of cash contributions to the fund for the construction of the new athletic field last Thursday evening at \$264.50. The cash amounts received during the week were as follows:

|                           |         |
|---------------------------|---------|
| D. Foote, '09.....        | \$10 00 |
| Alma McRae, '06.....      | 10 00   |
| Frank W. Dunn, '84.....   | 10 00   |
| Earl Wheeler, '05.....    | 10 00   |
| Wm. L. Shelly, '09.....   | 5 00    |
| Ernest L. Adams, '07..... | 25 00   |

Pres. H. J. Waters addressed the students in the Auditorium last Thursday morning on the subject of physical training. He emphasized that a healthy body is as necessary for high-grade life work as a well-developed mind, and that no one should think of falling out of the ranks of strenuous workers before reaching old age. He held up ex-President Roosevelt as an example of strong and well-balanced physical and mental vigor, and closed by expressing the hope that every one would take part in the annual interclass track meet, next Wednesday afternoon.

The annual concert of the Choral Union will be given June 13. There will be a matinee in the afternoon at 3 o'clock and a grand concert in the evening at 8. In both concerts the Union will be assisted by the Hinshaw Grand Opera Company, the College Orchestra, and the College Glee Club. Single tickets for the afternoon or evening will be seventy-five cents. Combination tickets for both concerts will be a dollar each. The programs of both concerts were published in the INDUSTRIALIST last week. Every one should make preparations to attend these grand musical treats.



Miss Ula Dow, '05, has just returned from Hiawatha, where she directed a week's session of the movable domestic science school organized this year by the College Extension Department. This closes a series of eight schools conducted during as many weeks this spring. Miss Dow was assisted by Miss Alice Skinner, '09. Miss Frances L. Brown returned Tuesday from Yates Center, where she, assisted by Miss Minnie Forceman, '09, was doing similar work. Both teachers report that this feature of the College extension work was very well received. Miss Skinner, assisted by Miss Forceman, is out at Liberal, Kan., this week doing the same kind of work. The Liberal school closes the work for this term.

The entertainment given by the German Department last Wednesday night in the Auditorium was the first German program ever given by the College. It was well attended and a success in every particular. Of the many numbers that were especially good may be mentioned the German folk songs rendered by the Eurodelphian Octet, the address on "The Historic Rhine" by Professor Roberts, the readings from Scheffel's "Trompeter von Saekingen" by Mrs. Emil C. Pfuetze, several solos rendered by Miss Edna Jones, Professor Rose, and Elmer F. Kittell, and a very fine duet by the Misses Kliever and Woestemeyer. The program concluded by presenting the laughable comedy "Einer Muss Heiraten," which was very well rendered and well received. In his opening remarks Professor Walters, who presided, expressed the hope that the German Department would give such a public program at least once a year.

State Highway Engineer W. S. Gearhart is certainly a busy man and much in demand. On May 23 he attended a good roads meeting at Mound City, where he gave an address on "The Proposed Rock Road from Fort Scott to Kansas City," a meeting that was attended by over 500 enthusiastic farmers. On the 31st he was at Lyons, where he spoke on the subject of improvements to be made on the Santa Fé trail through Rice county. On June 1 he was at Arkansas City making the necessary preliminary surveys for a fourteen-mile rock road between that city and Winfield. He will also prepare plans, specifications and estimates for four reinforced concrete arch bridges over the Arkansas river in Cowley county. These will consist of a series of five arches ranging from 90- to 150-foot spans. He is also at work on plans for a reinforced concrete bridge over the Walnut river near Winfield. This will consist of two spans of 100 feet each. On Saturday, June 4, he will meet with the Shawnee county board to consider the construction of an oil earth road to be built near Topeka. On June 15 the Ottawa county board will let the contracts for the four bridges recently planned by him. These will consist of one 150-foot steel span on concrete abutments and two 60-foot and one 30-foot reinforced concrete structures. In addition to this field work Mr. Gearhart is answering every day scores of letters by county, township, and city boards inquiring about building materials and methods of road improvement of every imaginable kind.

**Board of Instruction (concluded from second page).**

|                                                                    |                                                   |
|--------------------------------------------------------------------|---------------------------------------------------|
| Ambrose E. Ridenour, B. S. (K. S. A. C.)                           | Instructor in Moulding, Foreman of Foundry        |
| J. H. Hollar                                                       | Instructor in Forging, Foreman of Blacksmith Shop |
| Raymond Garfield Taylor, A. B. (University of Kansas)              | Instructor in History and Civics                  |
| Miss Ina E. Holroyd, B. S. (K. S. A. C.), (K. S. N.)               | Assistant in Mathematics                          |
| Miss Kate Tinkey                                                   | Assistant Librarian                               |
| Earl N. Rodell, B. S. (K. S. A. C.)                                | Assistant in Printing                             |
| Chas. Yost                                                         | Assistant in Heat and Power Department            |
| Earle B. Milliard                                                  | Assistant in Machine Shops                        |
| J. T. Parker                                                       | Assistant in Woodwork                             |
| E. G. Meinzer, M. A. (Olivet College)                              | Assistant in German                               |
| Hugh Oliver                                                        | Assistant in Heat and Power Department            |
| Miss Charlaire Furley, B. A. (Fairmount College)                   | Assistant in English                              |
| Miss Jessie Reynolds, A. B. (University of Kansas)                 | Assistant in History                              |
| William C. Lane, B. S. (K. S. A. C.)                               | Assistant in Electrical Engineering               |
| Miss Flora C. Knight, A. B. (University of Wyoming)                | Assistant in English                              |
| Miss Grace H. Woodward (Boston School of Domestic Science)         | Asst. in Domestic Science                         |
| Miss Margaret A. Mack (Kansas State Normal School)                 | Assistant in History                              |
| C. A. Arthur Utt, M. S. (Cornell College)                          | Assistant in Chemistry                            |
| Miss Anna Gordon, A. B. (Iowa College)                             | Assistant in History                              |
| S. W. McGarrah, M. A. (Grove City College)                         | Assistant in Mathematics                          |
| Harrison E. Porter, B. S. (K. S. A. C.)                            | Assistant in Mathematics                          |
| J. B. Parker, M. A. (Ohio State University)                        | Assistant in Entomology                           |
| Allen G. Philips, B. S. (K. S. A. C.)                              | Assistant in Poultry                              |
| Miss Gertrude Cannon (Bethany College) (Oberlin Conservatory)      | Assistant in Music                                |
| Miss Bertha Bisby                                                  | Assistant in Mathematics                          |
| Fred M. Hayes, D. V. M. (K. S. A. C.)                              | Assistant in Veterinary Science                   |
| Miss Bertha Donaldson (University of Chicago)                      | Assistant in Domestic Art                         |
| B. S. Orr, B. S. (K. S. A. C.)                                     | Assistant in Mechanical Engineering               |
| Elmer Johnson, B. S. (K. S. A. C.)                                 | Assistant in Mechanical Engineering               |
| Miss Elizabeth Putnam (Chicago Art Institute)                      | Assistant in Drawing                              |
| L. E. Petty, A. B. (Wabash College)                                | Assistant in Mathematics                          |
| Jules C. Cunningham, B. S. (K. S. A. C.)                           | Assistant in Horticulture                         |
| Miss Annie E. Lindsey (Simmons College)                            | Assistant in Domestic Science                     |
| John E. Smith, B. S. (Oregon Agricultural College)                 | Assistant in Botany                               |
| R. C. Wiley, B. S. (Oklahoma A. & M. College)                      | Assistant in Chemistry                            |
| Thomas Powell Haslam, B. S. (K. S. A. C.)                          | Assistant in Veterinary Science, Agr. Exp. Sta.   |
| Miss Amy Allen, B. S. (K. S. A. C.)                                | Assistant in Printing                             |
| Porter J. Newman, B. S. (Franklin College)                         | Assistant in Chemistry                            |
| C. E. Griffin, M. S. (University of Michigan)                      | Assistant in Chemistry                            |
| C. W. Nash, B. S. (Iowa State College)                             | Assistant in Crops                                |
| Chas. Doryland, B. S. (K. S. A. C.)                                | Assistant in Soils                                |
| R. C. Thompson, B. S. (K. S. A. C.)                                | Assistant in Chemistry                            |
| R. H. Wilson, D. V. M. (K. S. A. C.)                               | Assistant in Bacteriology                         |
| Miss Helen Huse, B. S. (K. S. A. C.)                               | Assistant in Domestic Science                     |
| E. F. Kubin, D. V. M. (K. S. A. C.)                                | Assistant in Veterinary Science                   |
| A. B. Nystrom, B. S. (K. S. A. C.)                                 | Assistant in Dairy Husbandry                      |
| A. Miyawaki, M. S. (K. S. A. C.)                                   | Assistant in Experimental Dairying                |
| Miss Ethel Byerly, (Drexel Institute)                              | Assistant in Domestic Art                         |
| T. G. Patterson, B. S. (University of Minnesota)                   | Assistant in Animal Husbandry                     |
| Mrs. Jessie Gulick                                                 | Assistant in Library                              |
| Miss Mary Mudge, B. S. (K. S. A. C.)                               | Assistant in Library                              |
| Miss Estella M. Boot, M. A. (Northwestern University)              | Assistant in English                              |
| J. R. Jenness, B. S. (Denison College)                             | Assistant in Physics                              |
| Harry Evans, B. S. (Ohio State University)                         | Assistant in Entomology                           |
| Miss Ada Baum (Chicago Musical College)                            | Assistant in Music                                |
| Miss Ethel K. M. Ping (Sherwood Music School)                      | Assistant in Music                                |
| E. P. Johnston, A. B. (Oberlin College) (Emerson Coll. of Oratory) | Asst. in Public Speaking                          |
| Dean H. Rose, M. A. (Washington University, St. Louis)             | Assistant in Botany                               |
| Miss Anna Monroe, B. S. (K. S. A. C.)                              | Assistant in Botany                               |
| Miss Madge Kay, B. S. (University of Chicago)                      | Assistant in Mathematics                          |
| C. A. Jackson, B. S. (Purdue University)                           | Assistant in Mathematics                          |
| D. O. Stone, C. E. (Cornell University)                            | Assistant in Civil Engineering                    |
| Paul W. Graff, B. S. (Connecticut Agricultural College)            | Assistant in Botany                               |
| T. R. H. Wright, B. S. A. (University of Missouri)                 | Assistant in Animal Husbandry                     |
| L. A. Chase                                                        | Assistant in History                              |
| Henry Wagner                                                       | Assistant in Heat and Power                       |
| A. E. White, M. S. (Purdue University)                             | Assistant in Mathematics                          |
| H. W. Edson, A. M. (Harvard University)                            | Assistant in English                              |
| Miss Charlotte Augusta Morton, B. S. (K. S. A. C.)                 | Assistant in Drawing                              |
| Miss Jennie Florence Ridenour, B. S. (K. S. A. C.)                 | Assistant in Domestic Art                         |
| M. R. Bowerman, B. S. (Michigan Agricultural College)              | Assistant in Mechanical Engineering               |
| Frank C. Harris, B. S. (K. S. A. C.)                               | Assistant in Architecture and Drawing             |
| James Henry Burt, D. V. M. (Ohio State University)                 | Assistant in Veterinary Science                   |
| Miss Florence Warner, A. B. (University of Illinois)               | Cataloguer in Library                             |
| Miss Ada Herr, A. M. (University of Michigan)                      | Assistant in History                              |
| John Willard Calvin, B. S. (K. S. A. C.)                           | Assistant in Animal Nutrition                     |
| Carl Fred Chase (Nebraska School of Agriculture)                   | Assistant in Agronomy                             |
| Edward Staat Estel, B. S. (Iowa State College)                     | Assistant in Dairying                             |
| Miss Clara Orton Smith, B. S. (Ohio State University)              | Assistant in Domestic Science                     |
| Miss Ella Frances Miles (Macdonald Institute, Ont. Agr. Coll.)     | Assistant in Domestic Science                     |
| George August Westphalinger, Chief Musician U. S. Army (retired)   | Band Leader                                       |
| Miss Ida Ethel Rigney, B. S. (K. S. A. C.)                         | Assistant in Domestic Science                     |
| Miss Margaret Anna Butterfield                                     | Secretary                                         |
| William Riley Lewis                                                | Custodian                                         |
| Edward Claeren, Commissary Sergeant, U. S. Army (retired)          | Assistant to the Commandant                       |
| William Asa Lamb                                                   | Superintendent of Poultry Husbandry               |
| Floyd Howard                                                       | Farm Foreman                                      |
| Karl Nystrom                                                       | Dairy Herdsman                                    |
| Alexander Edgar                                                    | Herdsman                                          |



# THE INDUSTRIALIST

Vol. 36

Saturday, June 11, 1910

No. 31

*Issued Weekly By*  
**Kansas State Agricultural College**  
*Manhattan, Kansas*



~~~~~  
Published by
PRINTING DEPARTMENT
J. D. Rickman, Supt.

Entered at post-office, Manhattan, Kan., as second-class matter. Act of July 16, 1894.

THE INDUSTRIALIST.

PRES. H. J. WATERS..... Editor-in-Chief
 DR. J. D. WALTERS..... Local Editor
 DR. J. T. WILLARD..... Alumni Editor

BOARD OF REGENTS.

HON. W. E. BLACKBURN, President..... Anthony
 HON. J. O. TULLOSS ['99], Vice-President..... Sedan
 HON. EDWIN TAYLOR..... Edwardsville
 HON. ARTHUR CAPPER..... Topeka
 HON. A. L. SPONSLER..... Hutchinson
 HON. TOM BLODGETT..... Wichita
 PRES. H. J. WATERS, Secretary *ex-officio*..... Manhattan

BOARD OF INSTRUCTION

HENRY JACKSON WATERS, B. S. A. (University of Missouri)..... President of the College
 JOHN DANIEL WALTERS, D. A. (K. S. A. C.)..... Professor of Architecture and Drawing
 JULIUS T. WILLARD, D. Sc. (K. S. A. C.), Prof. of Chem. V.-Director Exp. Sta., Dean of Science
 JOSHUA D. RICKMAN..... Superintendent of Printing
 BENJ. L. REMICK, Ph. M. (Cornell College)..... Professor of Mathematics
 BENJ. F. EYER, E. E. (Armour Institute of Technology)..... Prof. of Electrical Engineering
 HERBERT F. ROBERTS, M. S. (K. S. A. C.)..... Professor of Botany
 WILLIAM A. MCKEEVER, Ph. M. (University of Chicago)..... Professor of Philosophy
 EDMUND B. MCCORMICK, S. B. (Mass. Inst. of Tech.)..... Prof. of Mech. Eng., Dean of Mech. Arts
 ALBERT DICKENS, M. S. (K. S. A. C.)..... Professor of Horticulture, Supt. of Grounds
 CLARK M. BRINK, Ph.D. (U. of City of N. Y.)..... Prof. of English, Dean of the Coll., Asst. to Pres.
 ALBERT M. TEN EYCK, B. Agr. (University of Wisconsin)..... Prof. of Agronomy, Supt. of Farm
 RALPH R. PRICE, M. A. (University of Kansas)..... Professor of History and Civics
 JULIUS E. KAMMEYER, M. A. (Central Wesleyan College)..... Professor of Economics
 JOHN V. CORTELYOU, Ph. D. (Heidelberg)..... Professor of German
 OLOF VALLEY, B. M. (Chicago Conservatory)..... Professor of Music
 F. S. SCHOENLEBER, D. V. S. (Chicago Vet. College)..... Professor of Veterinary Science
 ROLAND J. KINZER, B. S. A. (Iowa State College)..... Professor of Animal Husbandry
 JOHN H. MILLER, M. A. Superintendent Farmers' Institutes
 WALTER E. KING, M. S. (Cornell University)..... Professor of Bacteriology
 THOMAS J. HEADLEE, Ph. D. (Cornell University)..... Professor of Entomology
 CHAS. H. BOICE, First Lieutenant Seventh Cavalry, U. S. A. Professor of Military Science
 JOHN C. KENDALL, B. S. (New Hampshire A. & M. College)..... Professor of Dairy Husbandry
 JOHN O. HAMILTON, B. S. (University of Chicago)..... Professor of Physics
 MRS. MARY P. VANZILE, (Iowa State College)..... Prof. of Domestic Science, Dean of Women
 ED. H. WEBSTER, B. S. A. (Ia. S. C.), M. S. (K. S. A. C.)..... Director Exp. Sta., Dean of Agriculture
 LOWELL E. CONRAD, M. S. (Lehigh University)..... Professor of Civil Engineering
 MISS ANTONETTA BECKER (Drexel Institute)..... Professor of Domestic Art
 CHARLES A. SCOTT, B. S. (K. S. A. C.)..... State Forester
 LESLIE ARTHUR FITZ, B. S. (K. S. A. C.)..... In Charge of Department of Milling Industry
 EDWIN LEE HOLTON, A. B. (University of Indiana)..... Professor of Rural Education
 ANDREY A. POTTER,* S. B. (Mass. Inst. of Tech.)..... Professor of Steam and Gas Engineering
 ROY ANDREW SEATON,† B. S. (K. S. A. C.)..... Professor of Applied Mechanics and Hydraulics
 MISS MARGUERITE E. BARBOUR (Sargent Nor. Sch. Phys. Tr.)..... Director of Physical Training
 MISS GERTRUDE A. BARNES..... Librarian
 JAMES WILLIAM SEARSON,* A. M. (University of Nebraska)..... Associate Professor of English
 JACOB LUND, M. S. (K. S. A. C.)..... Superintendent Heat and Power Department
 ROBERT H. BROWN, B. M. (Kan. Con. of Music), B. S. (K. S. A. C.)..... Asst. Professor of Music
 GEO. A. DEAN, M. S. (K. S. A. C.)..... Assistant Professor of Entomology
 WILLIAM H. ANDREWS, A. B. (University of Chicago)..... Assistant Professor of Mathematics
 GEO. C. WHEELER, B. S. (K. S. A. C.)..... Lecturer on Farm Management, Extension Department
 ROBERT E. EASTMAN, M. S. (Cornell University)..... Assistant Professor of Forestry
 LELAND E. CALL, B. S. (Ohio State University)..... Assistant Professor of Soils
 PLEASANT E. CRABTREE..... Lecturer on Farm Management, Extension Department
 K. W. STOUDEB, D. V. M. (Iowa State College)..... Assistant Professor of Veterinary Science
 LEONARD W. GOSS, D. V. M. (Ohio State University)..... Asst. Professor of Veterinary Science
 MISS ULA M. DOW, B. S. (K. S. A. C.)..... Assistant Professor of Domestic Science
 H. H. KING, M. A. (Ewing College)..... Assistant Professor of Chemistry
 JOHN B. WHELAN, M. A. (University of Nebraska)..... Assistant Professor of Chemistry
 C. O. SWANSON, M. Agr. (University of Minnesota)..... Asst. Prof. of Agricultural Chemistry
 ROBT. J. BARNETT, B. S. (K. S. A. C.)..... Assistant Professor of Mathematics
 LOUIS H. BEALL, A. B. (Denison College)..... Assistant Professor of English
 GEO. E. BRAY, M. E. (University of Minnesota)..... Asst. Prof. Mech. Engineering, Supt. of Shops
 WILMER E. DAVIS, M. S. (University of Illinois)..... Assistant Professor of Botany
 F. G. KING, B. S. A. (University of Missouri)..... Assistant Professor of Animal Husbandry
 CLARENCE VICTOR HOLSINGER, B. S. (K. S. A. C.)..... Lecturer on Horticulture, Extension Dept.
 FRANCES LANGDON BROWN, B. S. (K. S. A. C.)..... Lecturer on Domestic Science, Extension Dept.
 CLAUDE HARRISON HINMAN, A. B. (Univ. of Neb.)..... Lecturer on Dairying, Extension Dept.
 WALTER SCOTT GEARHART, B. S. in C. E. (U. of Missouri)..... Highway Engr., Extension Dept.
 MISS ADA RICE, B. S. (K. S. A. C.)..... Instructor in English
 MISS ELLA WEEKS, A. B. (University of Kansas)..... Instructor in Drawing
 MISS DAISY ZEININGER, B. A. (Fairmount College)..... Instructor in Mathematics
 THEOPHILUS H. SCHEFFER, M. A. (Cornell University)..... Instructor in Zoölogy
 LELAND DAVID BUSHNELL, B. S. (University of Michigan)..... Instructor in Bacteriology
 MICHAEL FRANCIS AHEARN, B. S. (Massachusetts Agr. College)..... Instructor in Horticulture
 BURTON RAY ROGERS, D. V. M. (Iowa State College)..... Instructor in Veterinary Science
 KIRK HAROLD LOGAN, A. B. (University of Kansas)..... Instructor in Physics
 MISS CLARA WILLIS (Framingham Normal Institute)..... Instructor in Domestic Science
 MISS INA FOOTE COWLES, B. S. (K. S. A. C.)..... Instructor in Domestic Art
 MISS GERTRUDE STUMP, B. S. (K. S. A. C.)..... Instructor in Domestic Art
 MISS ANNETTE LEONARD, A. B. (University of Kansas)..... Instructor in English
 WILLIAM LEONARD HOUSE..... Instructor in Woodwork, Foreman of Carpenter Shop
 LOUIS WABNITZ..... Instructor in Machine Tool Work, Foreman of Machine Shop

*Beginning September 1, 1910. †On leave of absence during season 1909-'10.

(Board of Instruction concluded on last page.)

THE INDUSTRIALIST

VOL. 36.

MANHATTAN, KAN., JUNE 11, 1910.

No. 31

A Retrospect.

Dr. J. D. Walters, Professor of Architecture and Drawing.

The school year now nearing its close has been a period of unusual growth for the Kansas State Agricultural College. The great technical school at Manhattan has always been a progressive institution, but it has never before seen a year of more strenuous effort and intense development. This is true especially with regard to the characteristic work that distinguishes it from the other State schools—the State University, the State Normal School, and the Manual Training School. The year has been a period of peace and good will among the Board, the Faculty, and the students. All have worked together harmoniously and not a single incident occurred that seriously interrupted the good feeling of the large College "Family." We doubt that there is an institution of learning in America whose students behaved better, worked harder, and showed more good sense.

Yet, the year 1909-'10 has been an eventful one. It has witnessed the election and inauguration of a new president, an increase of the teaching force, a complete revision of all the courses of study, the raising of the entrance requirements for the freshman class, the introduction of agriculture and industrial work in the subfreshman classes, a phenomenal expansion of the efforts of the College Extension Department, the successful installation of the laboratory for producing hog-cholera serum, the completion of the new engineering laboratory, the erection of the splendid Nichols Gymnasium, the building of two new street-car lines from the College to the city, and many other things too numerous to mention. A few of the items of general interest pertaining to this growth are related in detail in the following paragraphs, but many others had to be omitted because of the limited size of the INDUSTRIALIST.

THE STUDENTS.

The forthcoming catalogue, which went to the State Printer early in May, will give the names of 2304 students who attended

College during the year. By classes the attendance has been as follows:

	1909-'10	1908-'09	1907-'08
Graduate	25	28	26
Senior	170	171	148
Junior	286	243	202
Sophomore	417	381	357
Freshman	456	491	450
Subfreshman and Preparatory....	542	655	662
Special	87	42	42
Dairy	4	18	26
Farmers' Short Course	235	197	173
Domestic Science Short Courses..	152	168	188
Counted Twice	70	86	82
Totals	2304	2308	2192

To these 2304 students enumerated in the annual catalogue must be added the enrolment of the new Summer Course in Agriculture and Manual Training, which will begin June 14. What this will be cannot be predicted, but it will undoubtedly increase the total considerably beyond that of last year. Of the given number 770, or about one-third, were young women. Only thirty-eight came from other states, namely from

Colorado	5
Connecticut	1
Iowa	4
Louisiana	2
Missouri	13
Nebraska	1
New Hampshire	1
New Mexico	1
Oklahoma	5
Tennessee	1
Texas	3
Philippine Islands	1

It was confidently expected at the beginning of the College year that the attendance would reach the 2400 mark. The fall term, too, gave indications that the expected number would be realized, but the winter and spring terms fell somewhat short, owing to the disappointing condition of the wheat fields in the central and western parts of the State. However, the growth of the student body has been quite constant for many years. In 1906-'07 it was 1937, in 1905-'06 it was 1690, in 1904-'05 it was 1462, in 1898-'00 it was 1094, and in 1894-'95 it was 572.

HEALTH AND PHYSICAL EXERCISE.

The sanitary condition of the students was exceptionally good during the year, and there were no outbreaks of contagious diseases of a malignant character. One or two deaths occurred, but this seems to be unavoidable in such a large family. Another year will see the completion of the Nichols Gymnasium, and the

College will then be in condition to assist the physical development of all of its students by regular exercises and baths taken under the direction of a competent superintendent. At present these exercises consist of 45 minutes of obligatory military drill per day for the young men below the junior year and of obligatory calisthenics of 45 minutes per day for the young women of the same classes.

There was, however, considerable activity along athletic lines and, considering the fact that the College never had a regular, salaried physical director, the success of the different teams on the athletic field was very satisfactory. During the fall term the football team made the unprecedented record of a total of 320 points as against only 11 points made by all of its opponents. The old rivals of Washburn College were defeated by a score of 40 to 0. The basket-ball season was not so favorable, yet only one game was lost out of a dozen, and two more were ties or forfeits. In the spring term the College was again victorious. Nineteen games were played with other colleges and our boys lost but two of them. The record of the team is not complete for the year at this writing, but it bids fair to imitate that of the army of Cæsar when he wrote his historic *veni, vidi, vici*. These victories are mentioned here simply to show that in the athletic field as well as in the class room the farmers and mechanics are the equals of the lawyers and preachers.

With regard to the future aims of athletic training at this College President Waters wrote in an article published this spring:

"Relying upon newspaper accounts, the public is apt to imagine that the only sort of athletics receiving serious attention in an educational institution is the purely competitive sort, in which only those already physically well developed and strong participate. In the proper organization of a college these athletic contests ought to be and are merely incidental to the great work of instruction in physical culture for the entire student body.

Under the guidance of a master of the subject, each student ought to be taught how to strengthen his or her body and how to do the most work without impairing its future usefulness. In other words, the student ought to be taught how to live an efficient life.

"With our new equipment of gymnasium, athletic field, and physical director, it is proposed that every student, upon entering the College, be required to undergo a most thorough physical examination. An accurate inventory of the deficiencies of each will be made, and after careful study of each case, the sort of exercise

and training best suited to correct the deficiencies will be recommended. As to whether the student will be required to take this course of training, or whether it is to be optional, is a matter that has not yet been determined.

"Competitive athletics, in the judgment of many competent authorities, has received altogether too much prominence in college life. On the other hand, it should be remembered that it is only by this means that an interest in physical culture has been awakened and can be kept alive. Students who take no interest in the development of their bodies and who, if required by college rules to take physical culture would take it perfunctorily, will, under the influence of intercollegiate contests, catch the spirit, and train as faithfully and as enthusiastically as the most accomplished athlete. In my judgment, the doing away with athletic contests altogether would be a serious mistake. That they should be regulated better than they have been in the recent past may be accepted without question.

"This is the outdoor gymnasium or physical culture laboratory, and is not primarily for the benefit of the first and second teams in football, baseball, basket-ball, etc. It is to afford facilities for all students to acquire proficiency in such athletic sports as they may be interested in and adapted to. The Board of Regents had in mind, in granting larger space than was originally asked for by the Athletic Association, the laying out of numerous tennis courts, providing at least separate baseball and football fields, and ample track facilities, so that in addition to the regular College teams the largest possible number of students might be accommodated in the ordinary practice of strictly amateur games. It is a practice ground for good weather; the gymnasium a practice ground for inclement weather. It is expected that the athletic work on the field as well as in the gymnasium will be in charge of the physical director."

THE FACULTY AND THE BOARD.

The Faculty of the Kansas State Agricultural College has witnessed the addition of a large number of teachers during the present year. It consists at this writing of 142 regular members; that is, of 29 professors and heads of departments, 19 assistant professors, 16 instructors, and 78 assistants and foremen. In addition to these the College employs a large corps of officers, experts and assistants in the Experiment Station Department, several experts and lecturers in the College Extension Department, and a number of secretaries, post-office clerks, janitors, stenographers, etc., in its Executive Department. The institution is

ex-officio the headquarters of the State highway engineer, the State dairy commissioner, the State veterinarian, and the State forester. The monthly pay-roll of the regular employes of the College contains over two hundred names.

The governing Board of the College consists of seven members, six of whom are appointed by the governor and hold their office for four years—three of them going out every two years. The present Board consists of the following members: Hon. W. E. Blackburn, president, Anthony, Hon. J. O. Tulloss ['99], vice-president, Sedan, Hon. Edwin Taylor, Edwardsville, Hon. Arthur Capper, Topeka, Hon. A. L. Sponsler, Hutchinson, Hon. Tom Blodgett, Wichita, Pres. H. J. Waters, Secretary *ex-officio*, Manhattan.

The institution was unfortunate last December in losing by death one of the Board members, the Hon. W. A. Harris, of Elmwood. It may be added as a matter of history that the past year has considerably reduced the ranks of our ex-Regents, there having died inside of twelve months also Hon. A. P. Riddle, of Minneapolis, Hon. T. P. Moore, of Holton, Hon. Ph. Krohn, of Atchison, Hon. John Elliot, of Manhattan, Hon. Samuel D. Houston, of Salina, and Hon. J. N. Limbocker, of Manhattan.

PRES. H. J. WATERS.

The most important change in the personnel of the "College family" was the election of a new President. The vacancy in the executive chair, caused by the resignation last June of Pres. Ernest R. Nichols, was filled in July by the election of Dean Henry Jackson Waters, of the agricultural department of Missouri State University. President Waters is a man of national reputation. He was connected with the Missouri school at Columbia for fourteen years, had made it what it is, and came to us with the strongest possible recommendations. He took hold of the executive work at the College with a steady hand, infused new life into the class rooms and laboratories, started new lines of research work in the Experiment Station, caused a revision of the courses of study, and increased the entrance requirements.

The influence of these changes will be far reaching. The course is still a six-year course from the common schools, as the great aim of the Kansas Agricultural College must always be to reach the boys and girls of the farm. But these changes recognize also the work of county and city high schools, and the new courses are planned to correlate with the State high school course of study; graduates from approved high schools will be given credit for all academic work at the Agricultural College.

The change that will be of the most vital consequence in the educational work of the College is the introduction of practical agriculture, shop practice and cooking and sewing in the earlier or sub-freshman years. Heretofore a boy from the country school had to wait two years before he could get any practical work in agriculture or shop work and the girl had to wait a year before she could get instruction in sewing or cooking. Now the young people will get this work from the first day.

The public inaugural of Prof. Henry J. Waters as President of the College was held November 11. A large number of the public officers of the State, many prominent educators from all parts of the United States, professors from other agricultural colleges and higher institutions of learning, alumni and citizens were present. Addresses were given by Dean W. Williams, of the department of journalism of the Missouri State University, Chancellor F. Strong, of the Kansas State University, Pres. J. H. Hill, of the Kansas State Normal School, State Supt. E. T. Fairchild, Secy. F. D. Curn, of the State Board of Agriculture, Congressman Chas. F. Scott, and Gov. W. R. Stubbs. President Waters himself delivered a scholarly address on "The Duty of the Agricultural College," which later was published in the *INDUSTRIALIST* and in several educational magazines. At the close of the exercises the Board of Regents conferred the degree of doctor of law upon all the speakers not connected with the institution.

THE EXPERIMENT STATION.

The Agricultural Experiment Station has had under consideration the past year forty distinctive projects, covering investigations in agronomy, dairying, animal husbandry, bacteriology, chemistry, botany, horticulture, entomology, and veterinary science.

The heads of each of the foregoing departments are responsible for the research work in their particular line. Each instructor in a department is expected to do some experimental work. The work of the Station has, however, been greatly hampered on account of the great amount of teaching required of the Experiment Station force, and it is expected that under the revised courses the deficiency will be even more keenly felt, as the new courses require much more teaching in agriculture than the College has ever offered before. This only serves to emphasize the necessity of more men to teach and carry on research so that the College and Station may meet the demands made upon it by the State.

Some of the work accomplished by the Station that has had

practical bearing on farming operations in Kansas the past year are:

(1) The suppression and control of the chinch-bug infestation and other insect pests causing untold loss to Kansas farmers every year.

(2) The manufacture and distribution of hog-cholera serum, a practical preventative of the dreaded hog-cholera.

(3) The perfection of a method of manufacturing hog-cholera serum, using the horse as a medium instead of a hog, thereby greatly reducing the cost. This work is still in the experimental stage, but enough has been done to demonstrate the accuracy and feasibility of the method.

(4) The progress made in isolating the organism that causes blind staggers in the horse and probably the pellagra in man. This work has reached a stage far beyond anything previously reported in this or other countries, and when the work is completed should prove a great saver of money to horse owners and perchance a great loss of human life by controlling the dreaded disease, pellagra.

(5) The establishment of a most complete system of fertilizer experiments to determine the effect of different crops in exhausting the soil of its fertility.

(6) Feeding experiments with large numbers of cattle and hogs and sheep, testing different methods of feeding and different feeds.

(7) Spraying experiments for control of insects and fungus injurious to horticultural crops. Soil investigations and analysis preliminary to the establishment of a complete soil survey of the State.

(8) Animal nutrition investigations to determine the digestibility of common Kansas foods and to determine the effect on the animal of various methods of feeding.

(9) Wheat breeding investigations to produce better and more desirable milling wheats for Kansas wheat growers.

(10) The production and distribution of large quantities of pure farm seeds of all kinds for Kansas farmers.

New work undertaken during the year is that of milling industry. In order to make the work of wheat growing more reliable and along better lines the question of the utilization of wheat, or the making of wheat into flour and all the attendant influences relating to it, was made a matter of study. This work has met with the hearty coöperation of the millers and farmers of the State and promises much for the future development of the milling industry of Kansas.

Since radical changes were made in the administration of Station affairs, all experimental work was put on the project basis July 1, 1909. Under this system all work is planned with the problem under investigation as the central unit, rather than the department doing the work. Every project has to be worked out in detail, so far as plans and methods of procedure are concerned, before an allotment of money is made for the work.

All accounts are kept by project rather than by department, and all reports are made by projects. This system makes unity of effort and good organized work possible and is a step in advance in Station administration.

A project may involve work in two or more departments. The project leader is held responsible for the carrying out of the work. The system encourages individual responsibility and coöperation between the various men of the Station staff.

Another item worth recording is a change in the method of issuing publications. Four series of publications are now issued: First, a technical bulletin dealing in the strictly scientific phases of Station work issued in limited numbers for other scientific workers, libraries, etc.; second, a farm bulletin written in popular style for the non-technical man, sent to farmers, newspapers, and all desiring the same; third, a circular of timely matter, brief and on but one or two points of work that need special emphasis at the time of publication, sent to everyone; fourth, a press bulletin for newspapers only.

This system of publication helps materially in classifying and presenting the State's material in a systematic and orderly way. The year has been one of progress and the relations of the director and staff have been most pleasant and cordial. The Station men, considering the over-load of teaching, have done excellent work. The Kansas Station is earning its place among the stations of the country and is making its impression on Kansas agriculture. During the present College year the Station has published seven pamphlet bulletins, five press bulletins, and seventeen circulars. The mailing list of the pamphlet bulletins contains over thirty thousand names, and the total number of publications mailed during the past twelve months is considerably in excess of half a million.

COLLEGE EXTENSION WORK.

The State legislature of 1909 appropriated for extension work for the Kansas Agricultural College \$25,000 for the year ending June 30, 1910, and \$27,500 for the year ending June 30, 1911. With this large appropriation the Board of Regents em-

ployed at the meeting in June of last year the following assistants in this department: P. E. Crabtree, Farm Management in Eastern Kansas; G. C. Wheeler, Farm Management in Western Kansas; C. H. Hinman, Dairy Management; C. V. Holsinger, Horticulture; W. S. Gearhart, Highway Engineering; Miss Frances L. Brown, Home Economics. To these were added at the meeting of the Regents in April, 1910, E. L. Holton, as Professor of Rural Education.

During the fiscal year 247 institutes were held and 47 new institutes were organized. The attendance at the institutes was less in proportion to the number held than heretofore, but this is easily accounted for by the inclement weather of November and December, when many institutes had an attendance of thirty or forty as compared with three or four hundred the preceding year. The total attendance for the year at all meetings is approximately five thousand.

Demonstration work on county farms was authorized by the legislature of 1909 and work has been conducted on nine such farms. We have also had similar work on six private farms. On these farms it has been the policy to grow a field of pure-bred seed-corn, a field of well-bred wheat, and a field of high-grade oats, with the idea of having seed for distribution in that particular county, and of growing the largest possible crop with the best possible methods, serving thus the three purposes of having seed to distribute, and growing large crops under good methods. It has also been the policy to grow a variety test of corn on each of the farms in order to determine, if possible, the superiority of pure-bred varieties over the corn grown in the neighborhood. In every case but one the pure-bred varieties outyielded the local varieties, and in that exception the local variety was really a pure-bred variety, having been introduced into the county some years ago.

Assistance has been given this year in the building of silos and in the handling of dairy herds, and extensive demonstration work has been conducted in the spraying of orchards in eastern Kansas in the counties of Doniphan, Anderson, Allen, Bourbon, and Linn. Certain orchards were selected and check plots in these orchards were chosen. These plots have been sprayed and the yield will be compared with the yield from an equal number of trees not sprayed. Demonstrations were made also in the orchards in Doniphan county in the use of smudge pots as a protection against frosts, and it was evident that the work protected the apples in about four acres.

The highway engineer connected with this department has

been called to scores of counties to render assistance to county commissioners in the building of bridges and roads, furnishing plans and specifications, and giving supervision in many cases to the actual construction.

In the line of home economics, in addition to instruction given in the institutes, movable schools were held in Beloit, Kirwin, Phillipsburg, Minneapolis, Hays, Sterling, Hiawatha, Osage City, Burlington, Harper, Howard, Fredonia, Yates Center, and Liberal. For this work two instructors were sent to a community for a week, giving five lessons in cookery and five in sewing.

For five years this department has advocated in season and out of season the teaching of agriculture in the rural schools and the teaching of home economics and manual training in all town and city schools. With the addition of an assistant in this department, as Professor of Rural Education, this work will be continued more vigorously than heretofore, until the elements of agriculture are recognized as an essential part of all public-school work and home economics and manual training made as important a feature of public-school education as the history of the Dark Ages or the study of Latin; giving attention to the training of the boys and girls for the actual experiences that are certain to be theirs.

Two agricultural trains were conducted during the past year, a "Dairy Train" over the Santa Fé lines in eastern Kansas and a "Corn Train" over the Rock Island.

A new feature has been added in the form of Correspondence Courses. Courses will be offered in Elementary Agriculture, Soils, Vegetable Gardening, Farm Dairying, Stock Feeding, Highway Construction, Poultry Management, Farm Crops, Orchardring, Landscape Gardening, Dairy Manufacturing, Farm Drainage, Forestry, Care of Farm Animals, Farm Buildings, Farm Economics, Cookery and Sewing, and Insects Injurious to Farm Crops. The work will begin with September, 1910, and the fee for each course will be \$2, in addition to the cost of the text-book.

During the year the department has prepared and published seven pamphlets on scientific topics connected with agriculture and home making and has sent out considerably over fifty thousand copies of these to parties that applied for them.

Asst. L. A. Chase, of the Department of History, has an article in the last number of the *Western Journal of Education*, entitled "The Construction and Use of the History Text."

The Dry-Land Farming Conference at Hays.

Notwithstanding the rather mixed aspects of the weather the meeting at Hays, June 7 and 8, was probably the largest of the kind ever held in the State. Fourteen counties were represented and there were over 1000 farmer delegates present.

The principal feature of the program of Tuesday forenoon was a drive through the immense experimental fields of the Station. Frequent stops were made for the purpose of listening to explanations offered by members of the staff of the Experiment Station. Everybody agreed that the wheat and oats were in excellent condition and the estimates made by wheat farmers gave the wheat fields a yield of from 40 to 60 bushels per acre.

At noon the delegates partook of a bountiful barbecue dinner served jointly by the Commercial Club of Hays and the Experiment Station. In the afternoon there were addresses on farm topics by Director Webster, President Waters, Hon. E. C. Chilcott, United States Department of Agriculture, and Professors TenEyck, Scott, and Kinzer.

In the evening the delegates met in the large Auditorium of the Branch Normal School and listened to addresses by members of the Normal Faculty and President Waters, of the Agricultural College, on the subject of "Farmers' Education in the Rural Schools." At the close of this interesting session the faculty of the Normal School served punch in the library under the direction of Miss Elizabeth J. Agnew, '00, the newly elected superintendent of the Domestic Science Department of the Branch Normal. The music of the different programs was furnished by the Hays Band and the Normal Quartet.

The Wednesday program was similar to that of Tuesday. The forenoon was given to a visit to the herds of the Station, interspersed by lectures on the live-stock experiments in progress. At noon there was another edition of the famous barbecue of Tuesday, and in the afternoon a series of lectures on methods of dry-land farming.

A feature of the afternoon session was the organization of the Western Kansas Dry Farming Association, which will be affiliated with the International Dry Farming Association that has its headquarters at Spokane. Permanent officers were elected, and it was agreed to hold another convention in June, 1911.

The Dairy Department has received its new automobile truck for gathering cream. It is a handsome wagon.

Local Notes.

The fall term will open Thursday, September 22.

To-day, Saturday, the seniors cross bats with the Faculty. No predictions.

The new Summer Course in Agriculture and Manual Training will open Tuesday, June 14, and continue six weeks.

Miss Ella Weeks will make a study trip to Europe this summer. She will sail June 25 from New York and visit England, the Dutch countries, Germany, Switzerland, and France.

Last week the Socialistic Club closed its course of study and research for the year by listening to a lecture by Professor Walters on "State Socialism in Switzerland." The club was addressed during the present term by several speakers. Among these were President Waters and Professors Kammeyer and McKeever.

Notice has just been received from Nebraska State University that Prof. C. F. Chase, of this College, has been elected a member of the Sigma Xi, an honorary scientific fraternity. Professor Chase is to be congratulated, as only students of the highest scholastic standing and those showing marked ability for research work are elected to this society.

Louis Wabnitz, instructor in machine tools and foreman of the machine shops, has resigned his position with the intention of taking up work with a large manufacturing establishment. He has been with the Department of Mechanical Engineering of the College since 1902 and has been a hard-working and skilful master mechanic. We wish him success.

The senior class will present the college drama "Cupid at Vassar," at the Auditorium, Tuesday, June 14. It is a typical, up-to-date college play, full of funny situations, and contains a plot that carries one clear through to the end with an interest and an enthusiasm that is irresistible. Seats should be procured early, as there is always a rush for the annual play.

Pres. H. J. Waters reports the total cash contributions to the fund for the construction of the new athletic field last Thursday evening at \$279.50. The cash amounts received during the week were as follows:

W. P. Terrell, '04.....	\$5 00
L. A. Ramsey, '06	5 00
R. A. Carle, '05.....	5 00

As the year draws to a close we want to pat Custodian William R. Lewis on his broad and patient shoulders for all the effective janitor work which he did each and every day in all parts of the College, the common sense that he displayed in all his dealings with the students, and the polite and sincere manner with which he treated the Faculty, from the President down to the last assistant. What would the College do without "daddy" Lewis?

The Department of History and Civics evidently believes that summer school work adds to the efficiency of the teacher. Professor Price was a student at Ann Arbor last summer. Miss Reynolds and Miss Gordon will attend the University of Chicago this summer. Miss Mack will attend either the University of Chicago or the University of Wisconsin. Mr. Chase will continue his work at the University of Michigan.

The INDUSTRIALIST is pained to inform the former pupils of Enos Harrold, foreman of shops at this College from 1891 till 1899, that he died of consumption, at Houghton, Mich., where he taught machine construction in the Michigan School of Mines. His body was brought to Manhattan, the old home of the Harrold family, and interred last Sunday. Mr. Harrold was a highly skilled mechanic, a first-class instructor, and an amiable character.

The class book of 1910, Volume II of the "Royal Purple," was received and distributed this week. It is a beautiful velvet-bound volume of three hundred octavo pages, well printed and well gotten up. Its illustrations are original, appropriate and artistic and its text subjects are well selected and interestingly presented. It is generally held that it is the most tasty of the many year-books that have been published to date by the senior classes of the College.

The recent graduates and students of Kansas colleges now in Chicago have formed an organization known as The Kansas College Club. The purpose of this club is the development of mutual acquaintance and good-will among the former Kansas men. It is the aim of the club to be of service to the many Kansas college men entering the city as strangers to take up work as students or in the technical or professional lines. Those coming to the city should report their names to L. S. Weatherby, Snell Hall, University of Chicago.

Dr. Samuel W. Williston, '72, professor of paleontology in Chicago University, lectured before the Science Club of the College last Tuesday night on "The Past, Present and Future Evolution of Man." The lecture was a rare, scientific treat and highly appreciated by all who were present. Upon request of the president of the society the professor, after reading his paper, also stated briefly his views concerning the present transitory status of the secondary schools of the United States, and the relation of these schools to college and university work.

Kansas has started out two cooking schools, traversing the eastern and central portions of the State. The schools make stops of a week at a time in conveniently located towns, and a complete course in domestic economy is attempted in each place. It is said the farmers' wives are taking great interest in the traveling schools and that strange dishes are appearing on the farm tables. The experiment is one that will be watched with much interest in all parts of the country and there is a good chance that the traveling cooking school will soon become a national institution.—*Cincinnati Commercial Tribune*.

Board of Instruction (concluded from second page).

Ambrose E. Ridenour, B. S. (K. S. A. C.)	Instructor in Moulding, Foreman of Foundry
J. H. Hollar	Instructor in Forging, Foreman of Blacksmith Shop
Raymond Garfield Taylor, * A. B. (University of Kansas)	Instructor in History and Civics
Miss Ina E. Holroyd, B. S. (K. S. A. C.), (K. S. N.)	Assistant in Mathematics
Miss Kate Tinkey	Assistant Librarian
Earl N. Rodell, B.S. (K. S. A. C.)	Assistant in Printing
Chas. Yost	Assistant in Heat and Power Department
Earle B. Milliard	Assistant in Machine Shops
J. T. Parker	Assistant in Woodwork
E. G. Meinzer, M. A. (Olivet College)	Assistant in German
Hugh Oliver	Assistant in Heat and Power Department
Miss Charlaïne Furley, B. A. (Fairmount College)	Assistant in English
Miss Jessie Reynolds, A. B. (University of Kansas)	Assistant in History
William C. Lane, B. S. (K. S. A. C.)	Assistant in Electrical Engineering
Miss Flora C. Knight, A. B. (University of Wyoming)	Assistant in English
Miss Grace H. Woodward (Boston School of Domestic Science)	Asst. in Domestic Science
Miss Margaret A. Mack (Kansas State Normal School)	Assistant in History
C. A. Arthur Utt, M. S. (Cornell College)	Assistant in Chemistry
Miss Anna Gordon, A. B. (Iowa College)	Assistant in History
S. W. McGarrah, M. A. (Grove City College)	Assistant in Mathematics
Harrison E. Porter, B. S. (K. S. A. C.)	Assistant in Mathematics
J. B. Parker, M. A. (Ohio State University)	Assistant in Entomology
Allen G. Phillips, B. S. (K. S. A. C.)	Assistant in Poultry
Miss Gertrude Cannon (Bethany College) (Oberlin Conservatory)	Assistant in Music
Miss Bertha Bisby	Assistant in Mathematics
Fred M. Hayes, D. V. M. (K. S. A. C.)	Assistant in Veterinary Science
Miss Bertha Donaldson (University of Chicago)	Assistant in Domestic Art
B. S. Orr, B. S. (K. S. A. C.)	Assistant in Mechanical Engineering
Elmer Johnson, B. S. (K. S. A. C.)	Assistant in Mechanical Engineering
Miss Elizabeth Putnam (Chicago Art Institute)	Assistant in Drawing
L. E. Petty, A. B. (Wabash College)	Assistant in Mathematics
Jules C. Cunningham, B. S. (K. S. A. C.)	Assistant in Horticulture
Miss Annie E. Lindsey (Simmons College)	Assistant in Domestic Science
John E. Smith, B. S. (Oregon Agricultural College)	Assistant in Botany
R. C. Wiley, B. S. (Oklahoma A. & M. College)	Assistant in Chemistry
Thomas Powell Haslam, B. S. (K. S. A. C.)	Assistant in Veterinary Science, Agr. Exp. Sta.
Miss Amy Allen, B. S. (K. S. A. C.)	Assistant in Printing
Porter J. Newman, B. S. (Franklin College)	Assistant in Chemistry
C. E. Griffin, M. S. (University of Michigan)	Assistant in Chemistry
C. W. Nash, B. S. (Iowa State College)	Assistant in Crops
Chas. Doryland, B. S. (K. S. A. C.)	Assistant in Soils
R. C. Thompson, B. S. (K. S. A. C.)	Assistant in Chemistry
R. H. Wilson, D. V. M. (K. S. A. C.)	Assistant in Bacteriology
Miss Helen Huse, B. S. (K. S. A. C.)	Assistant in Domestic Science
E. F. Kubin, D. V. M. (K. S. A. C.)	Assistant in Veterinary Science
A. B. Nystrom, B. S. (K. S. A. C.)	Assistant in Dairy Husbandry
A. Miyawaki, M. S. (K. S. A. C.)	Assistant in Experimental Dairying
Miss Ethel Byerly, (Drexel Institute)	Assistant in Domestic Art
T. G. Patterson, B. S. (University of Minnesota)	Assistant in Animal Husbandry
Mrs. Jessie Gulick	Assistant in Library
Miss Mary Mudge, B. S. (K. S. A. C.)	Assistant in Library
Miss Estella M. Boot, M. A. (Northwestern University)	Assistant in English
J. R. Jenness, B. S. (Denison College)	Assistant in Physics
Harry Evans, B. S. (Ohio State University)	Assistant in Entomology
Miss Ada Baum (Chicago Musical College)	Assistant in Music
Miss Ethel K. M. Ping (Sherwood Music School)	Assistant in Music
E. P. Johnston, A. B. (Oberlin College) (Emerson Coll. of Oratory)	Asst. in Public Speaking
Dean H. Rose, M. A. (Washington University, St. Louis)	Assistant in Botany
Miss Anna Monroe, B. S. (K. S. A. C.)	Assistant in Botany
Miss Madge Kay, B. S. (University of Chicago)	Assistant in Mathematics
C. A. Jackson, B. S. (Purdue University)	Assistant in Mathematics
D. O. Stone, C. E. (Cornell University)	Assistant in Civil Engineering
Paul W. Graff, B. S. (Connecticut Agricultural College)	Assistant in Botany
T. R. H. Wright, B. S. A. (University of Missouri)	Assistant in Animal Husbandry
L. A. Chase	Assistant in History
Henry Wagner	Assistant in Heat and Power
A. E. White, M. S. (Purdue University)	Assistant in Mathematics
H. W. Edson, A. M. (Harvard University)	Assistant in English
Miss Charlotte Augusta Morton, B. S. (K. S. A. C.)	Assistant in Drawing
Miss Jennie Florence Ridenour, B. S. (K. S. A. C.)	Assistant in Domestic Art
M. R. Bowerman, B. S. (Michigan Agricultural College)	Assistant in Mechanical Engineering
Frank C. Harris, B. S. (K. S. A. C.)	Assistant in Architecture and Drawing
James Henry Burt, D. V. M. (Ohio State University)	Assistant in Veterinary Science
Miss Florence Warner, A. B. (University of Illinois)	Cataloguer in Library
Miss Ada Herr, A. M. (University of Michigan)	Assistant in History
John Willard Calvin, B. S. (K. S. A. C.)	Assistant in Animal Nutrition
Carl Fred Chase (Nebraska School of Agriculture)	Assistant in Agronomy
Edward Staat Estel, B. S. (Iowa State College)	Assistant in Dairying
Miss Clara Orton Smith, B. S. (Ohio State University)	Assistant in Domestic Science
Miss Ella Frances Miles (Macdonald Institute, Ont. Agr. Coll.)	Assistant in Domestic Science
George August Westphalinger, Chief Musician U. S. Army (retired)	Band Leader
Miss Ida Ethel Rigney, B. S. (K. S. A. C.)	Assistant in Domestic Science
Miss Margaret Anna Butterfield	Secretary
William Riley Lewis	Custodian
Edward Claeren, Commissary Sergeant, U. S. Army (retired)	Assistant to the Commandant
William Asa Lamb	Superintendent of Poultry Husbandry
Floyd Howard	Farm Foreman
Karl Nystrom	Dairy Herdsman
Alexander Edgar	Herdsman

THE INDUSTRIALIST

Vol. 36

Saturday, June 25, 1910

No. 32

Issued Weekly By
Kansas State Agricultural College
Manhattan, Kansas



~~~~~  
*Published by*  
**PRINTING DEPARTMENT**  
*J. D. Rickman, Supt.*

Entered at post-office, Manhattan, Kan., as second-class matter. Act of July 16, 1894.

# THE INDUSTRIALIST.

|                         |                 |
|-------------------------|-----------------|
| PRES. H. J. WATERS..... | Editor-in-Chief |
| DR. J. D. WALTERS.....  | Local Editor    |
| DR. J. T. WILLARD.....  | Alumni Editor   |

## BOARD OF REGENTS.

|                                                       |              |
|-------------------------------------------------------|--------------|
| HON. W. E. BLACKBURN, President.....                  | Anthony      |
| HON. J. O. TULLOSS ['99], Vice-President.....         | Sedan        |
| HON. EDWIN TAYLOR.....                                | Edwardsville |
| HON. ARTHUR CAPPER.....                               | Topeka       |
| HON. A. L. SPONSER.....                               | Hutchinson   |
| HON. TOM BLODGETT.....                                | Wichita      |
| PRES. H. J. WATERS, Secretary <i>ex-officio</i> ..... | Manhattan    |

## BOARD OF INSTRUCTION

|                                                                                                |                                                          |
|------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| HENRY JACKSON WATERS, B. S. A. (University of Missouri).....                                   | President of the College                                 |
| JOHN DANIEL WALTERS, D. A. (K. S. A. C.).....                                                  | Professor of Architecture and Drawing                    |
| JULIUS T. WILLARD, D. Sc. (K. S. A. C.), Prof. of Chem. V.-Director Exp. Sta., Dean of Science |                                                          |
| JOSHUA D. RICKMAN.....                                                                         | Superintendent of Printing                               |
| BENJ. L. REMICK, Ph. M. (Cornell College).....                                                 | Professor of Mathematics                                 |
| BENJ. F. EYER, E. E. (Armour Institute of Technology).....                                     | Prof. of Electrical Engineering                          |
| HERBERT F. ROBERTS, M. S. (K. S. A. C.).....                                                   | Professor of Botany                                      |
| WILLIAM A. MCKEEVER, Ph. M. (University of Chicago).....                                       | Professor of Philosophy                                  |
| EDMUND B. MCCORMICK, S. B. (Mass. Inst. of Tech.).....                                         | Prof. of Mech. Eng., Dean of Mech. Arts                  |
| ALBERT DICKENS, M. S. (K. S. A. C.).....                                                       | Professor of Horticulture, Supt. of Grounds              |
| CLARK M. BRINK, Ph.D. (U. of City of N. Y.).....                                               | Prof. of English, Dean of the Coll., Asst. to Pres.      |
| ALBERT M. TEN EYCK, B. Agr. (University of Wisconsin).....                                     | Prof. of Agronomy, Supt. of Farm                         |
| RALPH R. PRICE, M. A. (University of Kansas).....                                              | Professor of History and Civics                          |
| JULIUS E. KAMMEYER, M. A. (Central Wesleyan College).....                                      | Professor of Economics                                   |
| JOHN V. CORTELYOU, Ph. D. (Heidelberg).....                                                    | Professor of German                                      |
| OLOF VALLEY, B. M. (Chicago Conservatory).....                                                 | Professor of Music                                       |
| F. S. SCHOENLEBER, D. V. S. (Chicago Vet. College).....                                        | Professor of Veterinary Science                          |
| ROLAND J. KINZER, B. S. A. (Iowa State College).....                                           | Professor of Animal Husbandry                            |
| JOHN H. MILLER, M. A. ....                                                                     | Superintendent Farmers' Institutes                       |
| WALTER E. KING, M. S. (Cornell University).....                                                | Professor of Bacteriology                                |
| THOMAS J. HEADLEE, Ph. D. (Cornell University).....                                            | Professor of Entomology                                  |
| CHAS. H. BOICE, First Lieutenant Seventh Cavalry, U. S. A. ....                                | Professor of Military Science                            |
| JOHN C. KENDALL, B. S. (New Hampshire A. & M. College).....                                    | Professor of Dairy Husbandry                             |
| JOHN O. HAMILTON, B. S. (University of Chicago).....                                           | Professor of Physics                                     |
| MRS. MARY P. VANZILE, (Iowa State College).....                                                | Prof. of Domestic Science, Dean of Women                 |
| ED. H. WEBSTER, B. S. A. (Ia. S. C.), M. S. (K. S. A. C.).....                                 | Director Exp. Sta., Dean of Agriculture                  |
| LOWELL E. CONRAD, M. S. (Lehigh University).....                                               | Professor of Civil Engineering                           |
| MISS ANTONETTA BECKER (Drexel Institute).....                                                  | Professor of Domestic Art                                |
| CHARLES A. SCOTT, B. S. (K. S. A. C.).....                                                     | State Forester                                           |
| LESLIE ARTHUR FITZ, B. S. (K. S. A. C.).....                                                   | In Charge of Department of Milling Industry              |
| EDWIN LEE HOLTON, A. B. (University of Indiana).....                                           | Professor of Rural Education                             |
| ANDREY A. POTTER,* S. B. (Mass. Inst. of Tech.).....                                           | Professor of Steam and Gas Engineering                   |
| ROY ANDREW SEATON,† B. S. (K. S. A. C.).....                                                   | Professor of Applied Mechanics and Hydraulics            |
| MISS MARGUERITE E. BARBOUR (Sargent Nor. Sch. Phys. Tr.), Director of Physical Training        |                                                          |
| MISS GERTRUDE A. BARNES.....                                                                   | Librarian                                                |
| JAMES WILLIAM SEARSON,* A. M. (University of Nebraska).....                                    | Associate Professor of English                           |
| JACOB LUND, M. S. (K. S. A. C.).....                                                           | Superintendent Heat and Power Department                 |
| ROBERT H. BROWN, B. M. (Kan. Con. of Music), B. S. (K. S. A. C.).....                          | Asst. Professor of Music                                 |
| GEO. A. DEAN, M. S. (K. S. A. C.).....                                                         | Assistant Professor of Entomology                        |
| WILLIAM H. ANDREWS, A. B. (University of Chicago).....                                         | Assistant Professor of Mathematics                       |
| GEO. C. WHEELER, B. S. (K. S. A. C.).....                                                      | Lecturer on Farm Management, Extension Department        |
| ROBERT E. EASTMAN, M. S. (Cornell University).....                                             | Assistant Professor of Forestry                          |
| LELAND E. CALL, B. S. (Ohio State University).....                                             | Assistant Professor of Soils                             |
| PLEASANT E. CRABTREE.....                                                                      | Lecturer on Farm Management, Extension Department        |
| K. W. STODDER, D. V. M. (Iowa State College).....                                              | Assistant Professor of Veterinary Science                |
| LEONARD W. GOSS, D. V. M. (Ohio State University).....                                         | Asst. Professor of Veterinary Science                    |
| MISS ULA M. DOW, B. S. (K. S. A. C.).....                                                      | Assistant Professor of Domestic Science                  |
| H. H. KING, M. A. (Ewing College).....                                                         | Assistant Professor of Chemistry                         |
| JOHN B. WHELAN, M. A. (University of Nebraska).....                                            | Assistant Professor of Chemistry                         |
| C. O. SWANSON, M. Agr. (University of Minnesota).....                                          | Asst. Prof. of Agricultural Chemistry                    |
| ROBT. J. BARNETT, B. S. (K. S. A. C.).....                                                     | Assistant Professor of Mathematics                       |
| LOUIS H. BEALL, A. B. (Denison College).....                                                   | Assistant Professor of English                           |
| GEO. E. BRAY, M. E. (University of Minnesota).....                                             | Asst. Prof. Mech. Engineering, Supt. of Shops            |
| WILMER E. DAVIS, M. S. (University of Illinois).....                                           | Assistant Professor of Botany                            |
| F. G. KING, B. S. A. (University of Missouri).....                                             | Assistant Professor of Animal Husbandry                  |
| CLARENCE VICTOR HOLSINGER, B. S. (K. S. A. C.).....                                            | Lecturer on Horticulture, Extension Dept.                |
| FRANCES LANGDON BROWN, B. S. (K. S. A. C.).....                                                | Lecturer on Domestic Science, Extension Dept.            |
| CLAUDE HARRISON HINMAN, A. B. (Univ. of Neb.).....                                             | Lecturer on Dairying, Extension Dept.                    |
| WALTER SCOTT GEARHART, B. S. in C. E. (U. of Missouri).....                                    | Highway Engr., Extension Dept.                           |
| MISS ADA RICE, B. S. (K. S. A. C.).....                                                        | Instructor in English                                    |
| MISS ELLA WEEKS, A. B. (University of Kansas).....                                             | Instructor in Drawing                                    |
| MISS DAISY ZEININGER, B. A. (Fairmount College).....                                           | Instructor in Mathematics                                |
| THEOPHILUS H. SCHEFFER, M. A. (Cornell University).....                                        | Instructor in Zoology                                    |
| LELAND DAVID BUSHNELL, B. S. (University of Michigan).....                                     | Instructor in Bacteriology                               |
| MICHAEL FRANCIS AHEARN, B. S. (Massachusetts Agr. College).....                                | Instructor in Horticulture                               |
| BURTON RAY ROGERS, D. V. M. (Iowa State College).....                                          | Instructor in Veterinary Science                         |
| KIRK HAROLD LOGAN, A. B. (University of Kansas).....                                           | Instructor in Physics                                    |
| MISS CLARA WILLIS (Framingham Normal Institute).....                                           | Instructor in Domestic Science                           |
| MISS INA FOOTE COWLES, B. S. (K. S. A. C.).....                                                | Instructor in Domestic Art                               |
| MISS GERTRUDE STUMP, B. S. (K. S. A. C.).....                                                  | Instructor in Domestic Art                               |
| MISS ANNETTE LEONARD, A. B. (University of Kansas).....                                        | Instructor in English                                    |
| WILLIAM LEONARD HOUSE.....                                                                     | Instructor in Woodwork, Foreman of Carpenter Shop        |
| LOUIS WABNITZ.....                                                                             | Instructor in Machine Tool Work, Foreman of Machine Shop |

\*Beginning September 1, 1910. †On leave of absence during season 1909-'10.

(Board of Instruction concluded on last page.)



# THE INDUSTRIALIST

VOL. 36.

MANHATTAN, KAN., JUNE 25, 1910.

No. 32

## The Commencement.

Dr. J. D. Walters, Professor of Architecture and Drawing.

The forty-seventh Commencement, comprising an extensive program of exercises covering the week from June 11 to 16, was the most successful ever held at the Kansas State Agricultural College. The weather was delightful and the attendance of friends and patrons of the institution was larger than at any commencement in its history. It is estimated that over eight thousand people were on the campus during the afternoon of Thursday, the closing day.

### BACCALAUREATE SERMON.

The baccalaureate sermon was given in the College Auditorium at 4 p. m., on Sunday, June 12, by Professor Albert Boynton Storms, D. D., LL. D., President of the Iowa State College. Every seat in the building was occupied. After a beautiful introductory by the orchestra and an anthem sung by the Choral Union, Doctor Bright, of the Methodist Episcopal Church of Manhattan, led in prayer. President Waters then introduced the speaker, who is one of the best pulpit and platform orators in the West. The Doctor is a tall, powerful man. He speaks slowly, distinctly, and forcefully. The class of 1910, numbering nearly 150 and dressed in the conventional black scholastic gown, was seated directly in front of the platform, and the sermon was directed to them, though it was highly appreciated by all who heard it. His subject was "The Need of a New Idealism." The following excerpts will give the trend of his masterly discourse:

Perhaps no characteristic of the age in which we live is more marked than the startling rapidity with which we progress away from ideals that were once held to be adequate and conceptions that were once thought to be final and sufficient.

It is only yesterday that an Agassiz could hold still to the conception of a separate and distinct creation of each individual

species in the animal and vegetable kingdoms. But the ideal of evolution has already asserted its reorganizing power in the realm of man's conceptions of nature. Instead of isolated compartments, nature is conceived under the new ideal as one. There is unity, logical relationship, progressive development.

But this reconstruction of our ideas of nature has left other of our conceptions isolated and inadequate. When nature was conceived as external and separated into isolated and entirely dispersive realms, it seemed sufficient to conceive of the Divine Being as an absentee, as working upon nature and upon man at intervals, and either without discernible method and continuity, or with a method and continuity determined solely by the divine mind and divine will within themselves and distinct from nature. So, much of the philosophy of prayer rested in the more or less crude idea of God as apart from nature and human life and that intercession must be especially procured. This seems to be largely the philosophy of religious sacrifices, as well as of prayer. God is to be propitiated, his presence implored and his power manifested by an interference with an established order of the material universe.

Now, under the radical reconstruction of our conceptions of nature, we are driven to abandon this conception of an external deity. Temporarily in this period of transition we are speaking glibly of the divine imminence. We say with Browning:

There is not a bush that fans our fence  
But flames with the awful imminence.

Or, we also say with him:

Speak to him, thou, for he hears,  
And spirit with spirit may meet;  
Closer is he than breathing  
And nearer than hands and feet.

But these utterances, either of a superficial glibness of speech or of the deep intuition of the poet seer, bring us face to face with ever deeper difficulties. We speak in reverence about the laws of nature being the revelations of the presence of the divine will and power. We not only conceive that we are reading the thoughts of God after Him in the records of the rocks, but we conceive that we feel the pulsing of divine energy in the throbbing currents of life.

But this identification of nature and God brings new and deeper difficulties. Under the old conception, evil was apart from God. He might permit evil, he might cause evil to fall upon men as a discipline, but a dual conception placed God and the world apart and made possible also a dual conception of good and evil. Someone has said, "The Devil is dead." And the Devil is dead. We



dare even to joke about him. But are we then obliged to father upon God himself the works that had been ascribed to the Devil? If nature is God in action, how can we reconcile the terrible facts of nature, "red in tooth and claw," with a conception of God as good?

The great constructive thinkers of the early ages were theologians. The time has come in the midst of our material progress and marvelous prosperity for the rise again of the theologian, by whose side shall sit the philosopher and the poet. The masterly unifying conceptions of nature and the soul and God that must come will ultimately be the work of the master idealists who shall furnish a comprehensive idealism.

And this is the great task of man to-day. We have been very busy with our material tasks. We are absorbed, too greatly absorbed, with a research that is limited and restricted to the range of the microscope and telescope and the test-tube and the balances. We have refined and improved our breeds of cattle and of grain, our fruits and flowers. Inventions have multiplied until we are bewildered and intoxicated with a sense of progress and of power. We are doing things and are feverishly impatient to do a great many more things, to do them quickly and to get big results.

And to this high enterprise of the spirit all men are called who have an ear for the noble commandment, who have heart for the enterprise.

How reconstructive such central and masterly idealism may be we can only dimly guess at present, but above all men's conceptions and above the most masterly idealism of the leaders of men, there is looming an idealism of God which is leading on the weaker powers of his children and making suggestions beyond their present power of comprehension. With the conception of the unity of nature, and with a nobler and more adequate conception of the character and the nature of the divine, and His relations to the world and to life, there are coming hints of a larger and truer socialism. Instead of humanity being broken into isolated and unrelated units, divided by color, political barriers, differing traditions and religious creeds, there is dimly dawning a consciousness of race solidarity. Commercially the world is becoming intricately related and mutually dependent. Politically there is awakened a marvelous interest among the nations, each in all the others and all in each. Out of all this marvelous awakening there must come gradually generally accepted principles of government, of social and industrial relations, that will make the whole world

kin in a far deeper and broader sense than is now true except in anticipation or prophesy.

There has come within the range of the social conscience the conviction that service is a law of life that must be recognized and obeyed. Men used and in part still do perform social services as a sort of work of supererogation, an extra good, which they need not do, but which to do adds to their merit and perhaps to their reward hereafter. Only slowly is the conviction taking hold of men that it is their duty to serve their fellows, to serve the age, to give their lives. For centuries men have read the words of the Master, "He that will save his life must lose it, and he that loseth his life saveth it," without really grasping its reach and significance, as they are beginning to grasp it to-day.

And so it seems the Master of men and of the ages stands to challenge humanity to offer larger and more adequate idealisms, in accordance with which they may build from the mass of materials that lie at hand and that are hewn rough from the quarries of the ages into an ever simpler and grander spiritual civilization. Such only is the truth that makes men free.

#### THE ANNUAL CONCERT.

Monday, Tuesday and Wednesday were given to regular class examinations. Visitors were here from all parts of the State, but the average patron is not eager to enter the "College Sweat Shops" on a warm day and watch the students reading the quiz hieroglyphics on the blackboards. A few professional educators will do this while the visitor from abroad looks up the work shops, the creamery, the cattle pens, the library, and the museum. Many, too, visited the annual exhibition of the Department of Domestic Art, or gathered in the rooms of the Architectural Department, where Professor Walters and his assistants had made a large exhibit of student drawings and home decoration work.

In the afternoon and evening of Monday the Music Department gave its annual exhibition to full houses in the Auditorium. The programs for these two concerts were elaborate and interesting. That of the afternoon consisted chiefly of operatic selections rendered by the well-known Hinshaw Grand Opera Quartet, and that of the evening of grand opera selections rendered by the Choral Union and the Hinshaw singers, with orchestra accompaniment. The second part of the evening program comprised the rendering of "The Holy City," by Gaul. Both programs were well given and drew full houses, every seat being sold. They reflected much credit upon the Faculty of the Department of



Music and the different musical organizations of the College—the Choral Union, the Orchestra, and the Glee Club.

#### THE SENIOR PLAY.

On Tuesday night the senior class gave their annual class play in the Auditorium. The large building was filled to the last seat, passages and stairs included, and we hear that many patrons were unable to get a chance to enter.

The play, "Cupid at Vassar," was well presented. It is not a very thrilling piece of dramatic literature, yet there were many funny situations, and the plot is a probable one. The strongest character was Miss Reva Cree, as Wanda, the Vassar freshman, who plotted with the "heavy" to break up the love affair of her sister. Miss Cree simulated an appropriately villainous disposition which made her a strong character. Her "umbrella flirting" scene in the last act could not be improved upon. Van Smith, as Shiny, the "shinola" of the play, was at his best and furnished the humor for the crowd. His impersonation of the Americanized Ethiopian was good, and he won the applause of the house throughout the evening. The hero, John Willets, was played by Mr. George Holmes in a very creditable manner. The heroine, Kate Carroll, was played by Miss Lucile Forrest. Ed. Truskett, as Amos North, the "mean man" of the play, did his turn ably, and Hank, the "Rube," was characterized by D. E. Lewis. Mrs. Carroll, the motherly character of the play, was played by Miss Louise Hofmann, and she made the best kind of mother for the college girls. The chorus work was a feature of the evening and the seniors are indebted to Mrs. Ray Duffy for the training they received in this part of the program.

#### THE ALUMNI MEETING.

The annual meeting of the Alumni Association was held Wednesday afternoon in the old chapel. The triennial session will come next year, and this possibly had an influence upon the attendance, as there were only about sixty members present. The meeting adopted an amendment to the constitution, which will give the control of the association to a board of directors. A part of these will be elected by the general meeting and a part by the local associations. The amended constitution will be published in the INDUSTRIALIST. The election of officers for the ensuing year resulted in the reelection of the present staff—that is: President, R. J. Barnett; vice-president, D. G. Robertson; secretary, Ina Holroyd; treasurer, Albert Dickens. In the evening there was an informal alumni reception in the Women's Gymnasium, which

was well attended. There were probably over three hundred members of the "Alumni-family" present, and all report a grand old time.

#### COMMENCEMENT DAY.

Thursday morning the campus was thronged at an early hour with multitudes of visitors, though the program did not begin till 10 o'clock. Thousands had come by railroad, automobile, wagon or on foot to spend a day picnicking under the trees of the beautiful campus of the great technical school of Kansas, to listen to the annual address and the high-grade musical program that was to be rendered, and to witness the military review and sham battle by the College cadets. It is estimated that over 8000 persons were actually present when the last number of the program was given. Commencement Day of the Kansas State Agricultural College means a holiday for all who live within a dozen miles of Manhattan.

The exercises were preceded by an academic procession, the first one attempted at the College. The graduating class in their scholastic caps and gowns, the Faculty, the Board and the speakers assembled in Anderson Hall, marched out at the north door, turned east and then marched south into the Auditorium. Here the class was seated directly in front of the platform, while the Board and the Faculty took position on the rostrum. The program of exercises was as follows:

March, "Under the Banner of Victory" ..... *Von Blon*  
Andante, "Pomp and Circumstance" ..... *Elgar*

#### COLLEGE ORCHESTRA

Invocation.....REV. WILLIAM THOMAS McLAIN

Selection, "Lohengrin" ..... *Wagner*

#### COLLEGE ORCHESTRA

Annual Address..... "Wonders of the Air"

HONORABLE WILLIS LUTHER MOORE, D. SC., LL. D.,

Chief of United States Weather Bureau.

"For Thee, O Dear, Dear Country"

"Thine is the Kingdom" (The Holy City).... .. *Gaul*

#### CHORAL UNION

#### THE ANNUAL ADDRESS.

Prof. Willis L. Moore, D.Sc., LL.D., Chief of United States Weather Bureau, spoke chiefly of the work of the Bureau of which he is the head, and described the wonderful progress that had been made in recent years in the development of the science



of meteorology and the application of the knowledge thus obtained to the interests and well-being of mankind.

At the time of the landing of the Pilgrims, said Professor Moore, scarcely anything was known of the properties of the air, and such methods as were employed for the measurement of its forces were of the crudest character; consequently, meteorology as a science had not come into existence, and the forecasting of storms was an impossibility. Since then, this field of research has been established on a firm scientific basis and has spread over all of the civilized portions of the globe. To-day there are two hundred full meteorological stations in the United States, acting under the direction of skilled scientists who report their observations twice daily to a Central Office in Washington and whose observations are also received and published in one hundred of the principal cities of the country. In addition to these fully equipped meteorological observatories there are four thousand small stations having Government thermometers and rain-gages—practically one for each county in the United States, except in the sparsely settled regions of the Rocky Mountains—where voluntary, or coöperative, observers obtain the data from which the climatology of nearly every portion of each State of the Union is determined, these records also furnishing the information on which depend the prosecution of many public improvements and the successful outcome of large investments.

Professor Moore told how the forecasts that are based upon the telegraphic weather reports are utilized by growers in the protection of fruit and vegetables from frost; by shippers of produce and various manufactured articles in guarding against cold waves; by mariners in seeking refuge from destructive storms on the lakes or oceans; and by those dwelling in regions subject to floods in protection against losses from high water. He also described the work that had been done in the upper regions of the atmosphere, where, by means of balloon flights to altitudes of 16 and 18 miles, there has in recent years been discovered a remarkable "isothermal layer," as it is called—an air stratum of nearly equal temperature resting upon the turbulent storm stratum below and practically unaffected by the frequent temperature changes that take place in the latter.

The speaker also pointed out that the United States, because of the trend of its mountains, is the breeding place of nearly all the storms of the Northern Hemisphere, the exceptions being the few that come northward from the tropics in the fall of the year. He further described the influence of climatic environment on the

efficiency of races. The forceful, dominant peoples of the world follow closely the lines of greatest storm activity, and the greatest human potentiality is developed in the regions that are neither too warm nor too cold for the growth of an abundance of cereal crops — where nature is neither so harsh as to crush ambition, nor so gentle as to lull desire.

In his description of the wonderful therapeutic properties of the air, Professor Moore declared that the cold wave was Nature's greatest sanitary agent, the high electrical potential of the north-west wind and the increased amount of ozone that is brought to the earth by its downward component of motion neutralizing or scattering and diffusing the noxious gases at the earth's surface. The east winds of the North American Continent were characterized as foul, warm, humid, and enervating; the cool north winds are pure, dry, and exhilarating.

In the course of the address the differences between the cyclone, the hurricane, the thunderstorm, and the tornado were made clear, and records were quoted to prove that there had been no measurable change in climate within the period of authentic history, any change that may have taken place being those slow mutations that are only perceptible in geologic stretches of time. Various superstitions regarding the weather were controverted, and the speaker was especially emphatic in his condemnation of the rain-makers of the west, the hail shooters of Europe, and the long-range forecast fakers who prey upon the credulity of the public.

The theories of the forester received the attention of Professor Moore, who stated that forests have no appreciable effect upon the flow of streams, the rainfall, or the climate as a whole, and that there has been a more equable and beneficial flow in the streams of the Ohio Valley since the removal of a large portion of the forests than there was when that valley was practically a forest area. The time has come, declared the speaker, when we should enlarge the cultivated area by continuing the irrigation projects that we have so wisely begun in the arid portions of the west, as well as to drain swamps and to restore to fertility, by a wise system of rotation, the abandoned lands of the east, in order to provide food for our increasing population and for the millions that are coming to these shores from foreign countries.

Professor Moore recommended a system of forest conservation that should be founded upon the conclusions of the engineers of the world who are engaged in the control of streams and of the meteorologists who are measuring the stages and flow



of rivers. He expressed the opinion that long before the forests are exhausted the increasing use of cement, stone, iron, and steel will have left but a comparatively small market for lumber; and that before the coal fields have ceased their yields (and they may reasonably be expected to last for at least ten thousand years) the nation, under a Government control of its power sites, will harness its rivers and transmute the energy of water flow into electric energy sufficient to heat and light the cities, towns, and even the rural communities, and to furnish the power necessary for manufacturing; in other words, the rivers eventually shall do the work of the nation.

#### CONFERRING OF CERTIFICATES AND DEGREES.

The class of 1910 is the largest ever graduated by the Kansas State Agricultural College. There were two post graduates and 141 graduates from the thirteen regular four-year courses. In addition the Board granted certificates for short-course work or special courses to 59 domestic science students, 9 domestic science teachers, 18 short-course students in agriculture, and 6 special students in military science and tactics. The following schedule gives the names and completed courses of all who received certificates or degrees. There were no honorary degrees granted.

#### CERTIFICATES

##### *The certificate in Domestic Science has been granted to*

Ellen Adams  
Nellie Albertson  
Ruth Haller Bates  
Esther M. Berry  
Clyde Bonebrake  
Hazel Broadie  
Ruth Edith Brown  
Jennie Brown  
Ida J. Buchheim  
Alice E. Carlgren  
Agnes Chapman  
Verna Combs  
Lena Corsaut  
Margaret I. Cummings  
Ethel Daugherty  
Anna Laura Davis  
Bertha Rumina Disser  
Lucy S. Dowie  
Mabel Etzold  
Anna S. Frederickson  
Ella E. Gfeller

Sue D. Haynes  
Daisy L. Howerton  
Ora M. Hoy  
Martha H. Ihde  
Emma S. Johnson  
Anna Jorgenson  
Hulda C. Keller  
Mabel Kretz  
Sara Leadley  
Josie Litsch  
Mary Lovejoy  
Helen M. Lyon  
Marian McAfee  
Maymie McCluskey  
Janet R. McFarland  
Bertha McKeage  
Ina J. McMath  
Mary E. McNamara  
Laura Marshall  
Millie Oltmanns  
Ermine L. Osborne

Bess Renwick  
Amy P. Reynolds  
Louise Rivenburg  
Ellen Rosenquist  
Ethel C. Seaman  
Mary Sittner  
Racy Sittner  
Eva M. Stafford  
Harriet A. St. John  
Edith Stone  
Olive Tennis  
Alice Thompson  
Laura E. Trospen  
Christine Van Vliet  
Elizabeth Van Vliet  
Neva Wallis  
Nellie B. Warren  
Marjorie A. Whitney  
Etta M. Wilke  
Dixie Williams

##### *The certificate in Domestic Science for Teachers has been granted to*

Ellen Pearl Frank  
Beulah A. Pennell  
Alberta Smutz

Lulu Ferrell  
Gertrude May Srader  
Mrs. Emma Pontius

Ida E. Grippen  
Fannie M. Dilsaver  
Mae Reiderer Besore

##### *The certificate in Agriculture has been granted to*

James F. Adee  
Bert R. Anderson  
Theodore C. Barnes  
Albert Billing  
Jacob E. Blean  
Harry A. Bragg

Joseph B. Brown  
Paul J. Englund  
Earl Finney  
Arthur L. Francis  
Charles Granger  
Roy M. Gray

David E. Johnson  
Michael Knapp  
Robert Murdock  
James Donald Reardon  
Earl Shaffer  
George Barnette Wise

## THE INDUSTRIALIST.

*The certificate in Military Science and Tactics is granted to*

Cadet Lieut. Col. Guy Chester Rexroad  
Cadet Major Charles Elmer Cassel  
Cadet Major Joe Gregsby Lill

Cadet Captain Floyd Emera Wilson  
Cadet Captain Reynold Shuyler  
Cadet Captain Ralph Robert Hand

## DEGREES

*In the Division of Agriculture*

*The degree of Bachelor of Science in Agriculture is conferred upon*

Louis Aicher  
Harley James Bower  
Virgil Bryant\*

Charles Elmer Cassel  
Louis Graham Cook\*  
Herman Cudney\*

Harlan Deaver  
Albert Lemert Wiltse

*in the Course in Agronomy, and upon*

Will David Austin  
Thomas Clarke  
Ralph Robert Hand  
Jesse Keeble  
Roy Masheter

John May  
Arthur Ostlund  
Charles Beryl Pitman  
Hilie Rannells

Reynold Shuyler  
Claude Simpson  
Harry Totten  
Earl Jay Trosper

*in the Course in Animal Husbandry, and upon*

Wilbur Sumner Davison  
William Droge

Roy Mentzer Johnson  
Alvin Josiah Reed

William Fenwick Turner

*in the Course in Dairy Husbandry, and upon*

Harvey Wilson Baker  
Roscoe Eugene Blair

Harold William Gore  
David Ernest Lewis

Karl Clay Manny  
Stanley Van Smith

*in the Course in Horticulture*

*The degree of Doctor of Veterinary Medicine is conferred upon*

John Gingery  
Amos Gish  
John Wallace Lumb

Charles Wilbur McCampbell  
Robert Mortimer Platt

William Preston Shuler  
John Thomas Wilson

*In the Division of Engineering*

*The degree of Bachelor of Science in Mechanical Engineering is conferred upon*

Edgar Hamilton Dearborn  
Anton Hanson\*  
Floyd Harrison  
Albert Richard Losh

Franklin William Newacheck  
Guy Chester Rexroad\*  
Harold Rowe

Edward Skillman  
Floyd Wilson  
Ward Woody

*and the degree of Bachelor of Science in Electrical Engineering is conferred upon*

James Browning  
Glenn Bushey  
Harry Hamler\*  
Harry Ellis Hershey  
Roland Loyd

Hurd Morris  
Hugh Reppert  
Theodore Sherrard  
Robert Alexander Snider  
Randall Talley

George Ira Thatcher  
Leslie Tippin  
Edwin Earl Truskett  
Clyde Quincy Ward  
Roy Wilkins\*

*and the degree of Bachelor of Science in Civil Engineering is conferred upon*

Willard Lawton  
Samuel McWilliams  
Vincent Mecke

Frank Thomas Parks  
Harry Reppert

Fred Schreiner  
Ray Thurman Wells

*and the degree of Bachelor of Science in Architecture is conferred upon*

Samuel Gross

William Avery Hopper

Richard Curtis Schuppert

*and the degree of Bachelor of Science in Printing is conferred upon*

Louis Blanchard Mickel

\*Of the class of 1909.



*In the Division of Domestic Science and Art**The degree of Bachelor of Science in Domestic Science is conferred upon*

Winifred Lois Alexander  
 Jessie Mabel Alvord  
 Isabelle Arnott  
 Marguerite Axtell\*  
 Stella Louise Ballard  
 Cecil Barnett\*  
 Grace Rebecca Berry  
 Hazel Estella Bixby  
 Etta Cornelia Carlton  
 Lillian Clemmons  
 Ethel Ruth Coffman  
 Minnie Faye Conner  
 Reva Violet Cree  
 Ida Myrtle Crow  
 Ivon la Vergne Dallas  
 Susan Davies  
 Mabel Ethel Davison

Ruth Ellen Elliot  
 Maude Estes  
 Rena Amelia Faubion  
 Ella Sevala Hathaway  
 Christine Heim  
 Helen Day Henderson\*  
 Dorothy Louise Hofmann  
 Emma Sophia Irving  
 Edna Mary Jones  
 Ethel May Justin  
 Ruth Mary Kellogg  
 Mattie Eunice Kirk  
 Lillian May Lowrance  
 Mabel Mortier McKenzie  
 Martha Mae MacLeod  
 Gladys Irene Nichols  
 Hope Olive Palmer

Eva Rees  
 Maybeth Robison  
 Ethlyn Jewell Sandborn  
 Grace Ellen Shelley  
 Esther Metta Sieder  
 Louberta Smith  
 Estella Pearl Soupene  
 Nellie Thompson  
 Cora Meda Trimmer  
 Grace Irene Tucker  
 Blanche Beatrice Vanderlip  
 Georgiana Welstead  
 Bessie May White  
 Jennie Williams  
 Edna Leona Willis  
 Esther Wilson  
 Clara Mary Woestemeyer

*In the Division of General Science**The degree of Bachelor of Science is conferred upon*

Raiffe Alvord  
 Dorus Clark Bascom  
 Curtis Lynn Daughters\*  
 Leila Dunton  
 Eugenia Fairman

Gilbert Ghormley  
 Ida Viola Hepler  
 DeForest Hungerford  
 Paul Vincent Kelly  
 John McClung

Charles Manshardt  
 Wilma Orem  
 William Mails Orr  
 Myrtle Oskins\*  
 Albert Leslie Schell\*

*The degree of Master of Science in Mechanical Engineering is conferred upon*

Roy Andrew Seaton, B. S. in Mechanical Engineering, K. S. A. C., '04

*The degree of Master of Science in Bacteriology and Agronomy is conferred upon*

Charles James Thomas Doryland, B. S. in Agriculture, K. S. A. C., '08

## Benediction

March, "Guest of Honor" ..... Kendall

## COLLEGE ORCHESTRA

The certificates were handed to the graduates by President Waters and were received by the students in divisions, the candidates for the Masters' Degree being the only ones who appeared on the rostrum in person to receive their sheepskins.

The music furnished by the orchestra under the direction of Prof. R. H. Brown, and by the Choral Union under the direction of Prof. Olof Valley, was of a high order. The invocation was pronounced by Rev. William Thomas McLain, of Manhattan, and the program closed with the singing of the College Hymn and a rousing College Yell given by 3000 enthusiastic voices.

## THE FACULTY-ALUMNI BANQUET.

At noon the alumni, including the newly-made doctors and bachelors, the members of the Faculty and the Board, and many invited guests, partook of a luncheon in the Women's Gymnasium. There must have been over 350 guests present. It was rather

\*Of the class of 1909.

warm in the large hall to be real comfortable, but the feast was well prepared, well served, and duly appreciated. A number of impromptu toasts were given, President Waters officiating as toast-master. The parties who were called on were Dr. J. D. Walters, Prof. Willis L. Moore, Editors I. D. Graham and L. C. Criner ('92), F. A. Dawley ('95), and Regent Edwin Taylor.

#### DRILL AND BAND CONCERT.

In the afternoon the Military Department gave a public review, preceded by a concert by the College military band, thirty-seven strong, which rendered the finest musical program ever given on a similar occasion. After the review there was a sham battle on the campus east and south of the Auditorium. The drill and the battle were witnessed by thousands of spectators who cheered lustily when, after a half-hour of heavy firing the attacking party stormed the position of the defenders. The drill by the battalion was an exhibition of tactic perfection rarely seen. It drew comments from all present, and especially from the old war veterans. Lieut. C. H. Boice, Seventh United States Cavalry, who has been with the College as head of the Military Department for two years, deserves much credit for his effective instruction. At the close of the sham battle there was a baseball game at the City Athletic Park (now soon to be abandoned for the new College Athletic Field) between a picked alumni team and the regular College team, which resulted in a victory for the latter, with a score of 10 to 1.

---

Prof. G. E. Warren, professor of farm management and farm crops of Cornell University, has recently written a text-book on "Elements of Agriculture." The book is simply written and well adapted for high-school instruction. Covering, as it does, the entire field of agriculture, it does not dwell on details, but presents the important phases of the subject in a clear and simple manner. It deals briefly with plant propagation, soil fertility, and management; farm crops, their culture and growth; plant diseases and insects, feeding and care of animals, and the breeding of plants and animals. In connection with the discussion of each subject, simple laboratory exercises are given, which may be used to supplement the class-room instruction. Teachers of agriculture in high schools will find this text worthy of their consideration. The Elements of Agriculture is published by the MacMillan Company, New York, N. Y.—*L. E. Call, Assistant Professor of Soils.*



## The Board Meeting.

The Board of Regents were in session during the whole of Commencement week and all members were present except Mr. Tom Blodgett. Most of the time of the meeting was devoted to the consideration of the general budget for next year. The contract for the erection of two new cottages at the Hays Branch Experiment Station was let to J. P. Blair, of Manhattan, for the sum of \$3500. As the College has received \$4000 for this purpose by the legislature, it will now be possible to add some plumbing and a few square feet of cement walks to the buildings. The contract for the cadet uniforms for next year was again awarded to John Coons, of Manhattan, on competitive bids from a number of the leading firms of the country. The new suits will be made from individual measurements. They will be made by first-class tailors and are guaranteed to fit. The specifications for the caps are changed to some extent.

Resignations were accepted from several members of the Board of Instruction. Those of Instructors T. H. Scheffer, A. G. Philips and Louis Wabnitz have already been reported in the INDUSTRIALIST. Prof. W. E. King, of the Department of Bacteriology resigned to accept at an advanced salary the junior directorship of the research laboratory of the Park-Davis Drug Company, of Detroit, Mich. His assistant, R. H. Wilson, will go to Detroit with him, also at an advanced salary. Miss Marguerite Barbour, of the Department of Physical Training, and Miss Clara Willis, of the Department of Domestic Science, resigned to accept home responsibilities. Both of these have been connected with the College for many years and the INDUSTRIALIST wishes them a full and overflowing measure of happiness and bliss. Asst. R. C. Thompson, of the Department of Chemistry, goes to a position of increased responsibility and an increased salary in the University of Arkansas. Resignations were also accepted of Assistants C. A. Jackson, L. E. Petty, E. B. Millard, and Miss Bertha Bisby.

The Board also made a number of new appointments and considered several that are not yet complete. They elected Miss Ada Noyes, assistant in domestic science. Miss Noyes is a graduate of the University of Ohio and has taught for two years in one of the best high schools of that state. Another new election is that of Miss Lillian Beck, at present teacher of mathematics in the Holton, Kan., high school. Miss Beck is a graduate of the Woman's School of Baltimore. She will take the place of Miss Bisby. Dr. Walter L. Hahn, of the chair of biology at the

State Normal School of South Dakota, was made instructor in zoölogy. The Doctor received his M. S. degree at the University of Indiana, his doctor's degree at the University of Michigan, and has published a number of works on his special subjects. Prof. L. M. Peairs, '05 K. S. A. C., graduate student Cornell University, and at present assistant State Entomologist of Maryland, was elected assistant in entomology. He will continue the inspection work now done by Professor Dean, while the latter will take up mill inspection work. Mr. F. S. Jacoby, of New York, was appointed assistant in poultry work. He is a son of the well-known Professor Jacoby of Cornell University and has held a position in the poultry department of that institution for two years. Mr. D. E. Schreiner, a graduate student of Cornell University, was elected foreman of the poultry plant. He received most of his professional training in Denmark and has a wide experience. Both of these men will come to Manhattan at once.

The most important position filled by the Board at its Commencement meeting was probably that of the chair of agronomy. Prof. William M. Jardine, of Washington, D. C., was elected to this responsible position to succeed Professor Ten Eyck, now superintendent of the Hays Branch Experiment Station. Professor Jardine was one of about twenty-five applicants for the position and the Regents as well as the College people in general believe that they have secured the very best man available for the place. Professor Jardine is a westerner by birth, having been raised on a farm in Southern Idaho. He is a graduate of Utah Agricultural College and for several years after his graduation was connected with that institution, first as an instructor and later as professor of agronomy. Three years ago he entered the service of the government as assistant cerealist in the Department of Agriculture at Washington, where he has made an enviable record. He is especially fitted for work under western conditions, as half of his time while in the government service has been spent in the field mostly in the West. He is a great farmers' institute worker and a man of tremendous energy in whatever work he may be engaged. Although a man of wide experience, he is but thirty-one years old, but his youth is nothing against him as he will undoubtedly develop into one of the foremost agronomists in the country, which he is in fact already. His duties at this College will begin about July 1.—J. D. W.

---

Prof. T. J. Headlee, of the Department of Entomology, has a valuable and timely article in the *Kansas Farmer* on "The Present Status of the Chinch-Bugs."



## Local Notes.

The Manhattan State Bank has lately installed the heaviest globe steel safe in the State. It weighs over seven tons.

Prof. W. A. McKeever has an appointment to speak at the National Conference for Child Welfare, at Worcester, Mass., July 1. On his return he will give two addresses before the National School of Home Economics, at Ames, Iowa.

The story of how good a town Manhattan is can be read from the assessor's books. To understand what has happened in two years, contrast these two columns of figures:

|                        | 1908.       | 1910.       |
|------------------------|-------------|-------------|
| Valuation of lots..... | \$1,193,275 | \$1,748,450 |
| Improvements .....     | 1,883,925   | 2,510,420   |
| Personal property..... | 1,298,150   | 1,918,390   |
| Totals.....            | \$4,217,510 | \$6,167,260 |

Pres. H. J. Waters reports the total cash contributions to the fund for the construction of the new athletic field last Monday, June 20, at \$468.90. The cash amounts received since June 9 are as follows:

|                               |          |
|-------------------------------|----------|
| F. A. Kiene, '06.....         | \$ 10.00 |
| T. H. Hill, '09 .....         | 10.00    |
| Webster Literary Society..... | 144.40   |
| Harry G. F. Oman, '07.....    | 10.00    |
| O. A. Stevens, '07.....       | 15.00    |

Prof. Theodore H. Scheffer, of the Department of Zoölogy and Entomology, has resigned his position at this College, which he has held for seven years, to enter the Government service in the division of biological survey, as expert in birds and mammals. His family will remain in Manhattan for the present, while he will take up field work in the Rockies this summer. The professor will get a considerable advancement in salary and better opportunities in specializing in his favorite lines. While here he published several scientific works, among them a Laboratory Manual in Zoölogy, four or five papers on The Arachnida and several Experiment Station Bulletins on birds and mammals. The INDUSTRIALIST wishes him well.

Contractor Walter Stingley, of the new Gymnasium, laid most of the large main floor of the building on Commencement Day. It is of reinforced concrete and contains 25,000 pounds of steel and 535,000 pounds or 268 tons of concrete (dry weight). The area of the floor is 107 square yards, and there are 2½ tons of concrete per yard. The job of laying it had to be done practically in one day, because it is impossible to make the different parts knit together well when they are laid on successive days. Nearly a hundred men and an immense mixing machine, driven by an electric motor, were at work for two days to cast the solid slab that forms the floor—a floor that will last for centuries unless disturbed by an earthquake.

Prof. Theo. H. Scheffer attended the annual class-day exercises at the State University, June 7, and was honored with the presidency of the K. U. alumni association.

Asst. L. A. Chase of the History Department will be in Ann Arbor, Mich., this summer and next year, pursuing studies in political economy and sociology in the graduate school of the University of Michigan.

The case brought by the government against commercially bleached flour is now in progress in the Federal court, Kansas City, Mo., and bids fair to be one of the most noted in recent years in respect to the commercial significance of its outcome. In this connection it is interesting to note that the method in use in all parts of the world for detecting the bleaching of flour by means of oxides of nitrogen was proposed by Professor Willard, of this College, and first applied in the laboratory of our Department of Chemistry over four years ago. It is loosely designated by milling and baking journals as "the acid test," but to chemists it is known as the Griess-Ilosvay test for nitrous acid and nitrites. Doctor Willard's extensive experience with this test as applied to the detection of nitrites in rain-water led naturally to the thought that it could be used with flour.

---

Rural Hygiene. By Isaac Williams Brewer, M. D. J. B. Lipincott Company, Philadelphia, Penn., 1909.

Comparatively recent vital statistics show that the average annual death rate from the communicable diseases is decreasing more rapidly in the cities than in the country. In spite of the fresh air and wholesome food found in the country, the average death rate from various infectious diseases is nearly as high as in the over-crowded cities. Typhoid fever is characterized as a rural disease rather than as a malady peculiar to those who live in the city. The cause of the prevalence of the various infectious diseases in the rural communities depends largely upon the lack of knowledge concerning the cause and control of communicable diseases and the absence of proper sanitary precautions.

This little book on Rural Hygiene consists of some two hundred pages, contains twenty-two cuts, and is written in a very clear, pleasing style, free from scientific terms and technical expressions. The book is especially useful as a guide for the preservation of the health of those who reside in the country. A copy of the book should have a place in the library of every farm home.

Doctor Brewer treats the subject in a comprehensive manner, taking up in detail the following discussions: Work and Recreation; Dwellings; Schools; Water; Disposal of Excreta; Food and Diet, Wines, Whiskey and Other Alcoholic Drinks; Milk; Ice; Country Stores, Jails and Good Roads; Flies, Manure, and Slaughter-houses; Hogs; Intestinal Parasites; Malaria, Lockjaw and Dysentery; General Rules Regarding Contagious Diseases; Measles; Scarlet Fever, Diphtheria, Small-pox, Whooping-cough, Typhoid Fever, Tuberculosis and Rabies.—*Walter E. King, Professor of Bacteriology.*



## Alumni and Former Students.

Carl P. Thompson, '04, is very enthusiastic over the birth of Vera Elizabeth Thompson, which occurred May 25. He expects her to enter the freshman class of 1928.

Earl J. Evans, '06, is now estimator for the Western Sash and Door Company, Kansas City, Mo. His address, with that of Florence (Sweet) Evans, '07, is 1720 Jefferson street.

Miss Mary Reed, '86, teacher in the Kamehameha Manual Training School at Honolulu, T. H., and expert in botany in the United States Experiment Station at that place, has recently been elected honorary member of the Woman's Table of Research of Naples, Italy.

Hubert L. Popenoe, '09, was married last month to Miss Whiting, of Topeka, and they are now cozily located on Ridgeview Farm, southwest of Topeka. Mrs. Popenoe is a graduate of Washburn College and possesses unusual charm and accomplishments. Professor Popenoe is more than delighted with his first daughter.

Prof. H. M. Cottrell ['84], who is well known at Wabaunsee and over the county and who has been director of farmers' institutes in Colorado, has resigned to take the position of agricultural commissioner for the Rock Island system, with headquarters in Chicago. His territory will cover thirteen states and 8000 miles of road and will be a fine field for his talents and energies.—*Alma Enterprise.*

R. C. Thompson, '08, who has been assisting in the Chemistry Department of the Experiment Station for the last two years, has just been elected first assistant chemist in the Arkansas Agricultural Experiment Station at a considerable increase in salary. Mr. Thompson has been a very efficient assistant here and his friends have no doubt of his success in his new and more responsible position.

Prof. F. A. Waugh ['91], for many years at the head of the horticultural department of the Massachusetts Agricultural College and the author of a number of highly valuable books, is a graduate of the Kansas Agricultural College and a McPherson county boy. He will spend the summer in Europe, and during his absence Prof. F. C. Sears, also a graduate of the Kansas Agricultural College, will be acting head of that department. Back East they know where to come for good men.—*Kansas Farmer.*

C. P. Hartley, '92, is the author of Farmers' Bulletin No. 400, "A More Profitable Corn Planting Method." This bulletin describes what is termed kernel-spaced checking in corn planting, by which is meant planting four kernels to the hill but with these occupying the corners of a five-inch square so that each stalk has an opportunity for development of a root system. Larger yields were obtained every time by this method of planting. Corn planted by this method is less liable to blow over. The great impediment to the adoption of this method, however, is the lack of machinery for planting in that way.

**Board of Instruction (concluded from second page).**

|                                                                    |                                                   |
|--------------------------------------------------------------------|---------------------------------------------------|
| Ambrose E. Ridenour, B. S. (K. S. A. C.)                           | Instructor in Moulding, Foreman of Foundry        |
| J. H. Hollar                                                       | Instructor in Forging, Foreman of Blacksmith Shop |
| Raymond Garfield Taylor, A. B. (University of Kansas)              | Instructor in History and Civics                  |
| Miss Ina E. Holroyd, B. S. (K. S. A. C.), (K. S. N.)               | Assistant in Mathematics                          |
| Miss Kate Tinkey                                                   | Assistant Librarian                               |
| Earl N. Rodell, B. S. (K. S. A. C.)                                | Assistant in Printing                             |
| Chas. Yost                                                         | Assistant in Heat and Power Department            |
| Earle B. Milliard                                                  | Assistant in Machine Shops                        |
| J. T. Parker                                                       | Assistant in Woodwork                             |
| E. G. Meinzer, M. A. (Olivet College)                              | Assistant in German                               |
| Hugh Oliver                                                        | Assistant in Heat and Power Department            |
| Miss Charlaune Furley, B. A. (Fairmount College)                   | Assistant in English                              |
| Miss Jessie Reynolds, A. B. (University of Kansas)                 | Assistant in History                              |
| William C. Lane, B. S. (K. S. A. C.)                               | Assistant in Electrical Engineering               |
| Miss Flora C. Knight, A. B. (University of Wyoming)                | Assistant in English                              |
| Miss Grace H. Woodward (Boston School of Domestic Science)         | Asst. in Domestic Science                         |
| Miss Margaret A. Mack (Kansas State Normal School)                 | Assistant in History                              |
| C. A. Arthur Utt, M. S. (Cornell College)                          | Assistant in Chemistry                            |
| Miss Anna Gordon, A. B. (Iowa College)                             | Assistant in History                              |
| S. W. McGarrah, M. A. (Grove City College)                         | Assistant in Mathematics                          |
| Harrison E. Porter, B. S. (K. S. A. C.)                            | Assistant in Mathematics                          |
| J. B. Parker, M. A. (Ohio State University)                        | Assistant in Entomology                           |
| Allen G. Philips, B. S. (K. S. A. C.)                              | Assistant in Poultry                              |
| Miss Gertrude Cannon (Bethany College) (Oberlin Conservatory)      | Assistant in Music                                |
| Miss Bertha Bisby                                                  | Assistant in Mathematics                          |
| Fred M. Hayes, D. V. M. (K. S. A. C.)                              | Assistant in Veterinary Science                   |
| Miss Bertha Donaldson (University of Chicago)                      | Assistant in Domestic Art                         |
| B. S. Orr, B. S. (K. S. A. C.)                                     | Assistant in Mechanical Engineering               |
| Elmer Johnson, B. S. (K. S. A. C.)                                 | Assistant in Mechanical Engineering               |
| Miss Elizabeth Putnam (Chicago Art Institute)                      | Assistant in Drawing                              |
| L. E. Petty, A. B. (Wabash College)                                | Assistant in Mathematics                          |
| Jules C. Cunningham, B. S. (K. S. A. C.)                           | Assistant in Horticulture                         |
| Miss Annie E. Lindsey (Simmons College)                            | Assistant in Domestic Science                     |
| John E. Smith, B. S. (Oregon Agricultural College)                 | Assistant in Botany                               |
| R. C. Wiley, B. S. (Oklahoma A. & M. College)                      | Assistant in Chemistry                            |
| Thomas Powell Haslam, B. S. (K. S. A. C.)                          | Assistant in Veterinary Science, Agr. Exp. Sta.   |
| Miss Amy Allen, B. S. (K. S. A. C.)                                | Assistant in Printing                             |
| Porter J. Newman, B. S. (Franklin College)                         | Assistant in Chemistry                            |
| C. E. Griffin, M. S. (University of Michigan)                      | Assistant in Chemistry                            |
| C. W. Nash, B. S. (Iowa State College)                             | Assistant in Crops                                |
| Chas. Doryland, B. S. (K. S. A. C.)                                | Assistant in Soils                                |
| R. C. Thompson, B. S. (K. S. A. C.)                                | Assistant in Chemistry                            |
| R. H. Wilson, D. V. M. (K. S. A. C.)                               | Assistant in Bacteriology                         |
| Miss Helen Huse, B. S. (K. S. A. C.)                               | Assistant in Domestic Science                     |
| E. F. Kubin, D. V. M. (K. S. A. C.)                                | Assistant in Veterinary Science                   |
| A. B. Nystrom, B. S. (K. S. A. C.)                                 | Assistant in Dairy Husbandry                      |
| A. Miyawaki, M. S. (K. S. A. C.)                                   | Assistant in Experimental Dairying                |
| Miss Ethel Byerly, (Drexel Institute)                              | Assistant in Domestic Art                         |
| T. G. Patterson, B. S. (University of Minnesota)                   | Assistant in Animal Husbandry                     |
| Mrs. Jessie Gulick                                                 | Assistant in Library                              |
| Miss Mary Mudge, B. S. (K. S. A. C.)                               | Assistant in Library                              |
| Miss Estella M. Boot, M. A. (Northwestern University)              | Assistant in English                              |
| J. R. Jenness, B. S. (Denison College)                             | Assistant in Physics                              |
| Harry Evans, B. S. (Ohio State University)                         | Assistant in Entomology                           |
| Miss Ada Baum (Chicago Musical College)                            | Assistant in Music                                |
| Miss Ethel K. M. Ping (Sherwood Music School)                      | Assistant in Music                                |
| E. P. Johnston, A. B. (Oberlin College) (Emerson Coll. of Oratory) | Asst. in Public Speaking                          |
| Dean H. Rose, M. A. (Washington University, St. Louis)             | Assistant in Botany                               |
| Miss Anna Monroe, B. S. (K. S. A. C.)                              | Assistant in Botany                               |
| Miss Madge Kay, B. S. (University of Chicago)                      | Assistant in Mathematics                          |
| C. A. Jackson, B. S. (Purdue University)                           | Assistant in Mathematics                          |
| D. O. Stone, C. E. (Cornell University)                            | Assistant in Civil Engineering                    |
| Paul W. Graff, B. S. (Connecticut Agricultural College)            | Assistant in Botany                               |
| T. R. H. Wright, B. S. A. (University of Missouri)                 | Assistant in Animal Husbandry                     |
| L. A. Chase                                                        | Assistant in History                              |
| Henry Wagner                                                       | Assistant in Heat and Power                       |
| A. E. White, M. S. (Purdue University)                             | Assistant in Mathematics                          |
| H. W. Edson, A. M. (Harvard University)                            | Assistant in English                              |
| Miss Charlotte Augusta Morton, B. S. (K. S. A. C.)                 | Assistant in Drawing                              |
| Miss Jennie Florence Ridenour, B. S. (K. S. A. C.)                 | Assistant in Domestic Art                         |
| M. R. Bowerman, B. S. (Michigan Agricultural College)              | Assistant in Mechanical Engineering               |
| Frank C. Harris, B. S. (K. S. A. C.)                               | Assistant in Architecture and Drawing             |
| James Henry Burt, D. V. M. (Ohio State University)                 | Assistant in Veterinary Science                   |
| Miss Florence Warner, A. B. (University of Illinois)               | Cataloguer in Library                             |
| Miss Ada Herr, A. M. (University of Michigan)                      | Assistant in History                              |
| John Willard Calvin, B. S. (K. S. A. C.)                           | Assistant in Animal Nutrition                     |
| Carl Fred Chase (Nebraska School of Agriculture)                   | Assistant in Agronomy                             |
| Edward Staat Estel, B. S. (Iowa State College)                     | Assistant in Dairying                             |
| Miss Clara Orton Smith, B. S. (Ohio State University)              | Assistant in Domestic Science                     |
| Miss Ella Frances Miles (Macdonald Institute, Ont. Agr. Coll.)     | Assistant in Domestic Science                     |
| George August Westphalinger, Chief Musician U. S. Army (retired)   | Band Leader                                       |
| Miss Ida Ethel Rigney, B. S. (K. S. A. C.)                         | Assistant in Domestic Science                     |
| Miss Margaret Anna Butterfield                                     | Secretary                                         |
| William Riley Lewis                                                | Custodian                                         |
| Edward Claeren, Commissary Sergeant, U. S. Army (retired)          | Assistant to the Commandant                       |
| William Asa Lamb                                                   | Superintendent of Poultry Husbandry               |
| Floyd Howard                                                       | Farm Foreman                                      |
| Karl Nystrom                                                       | Dairy Herdsman                                    |
| Alexander Edgar                                                    | Herdsman                                          |



THE  
**INDUSTRIALIST**

**Vol. 36**

**Saturday, August 20, 1910**

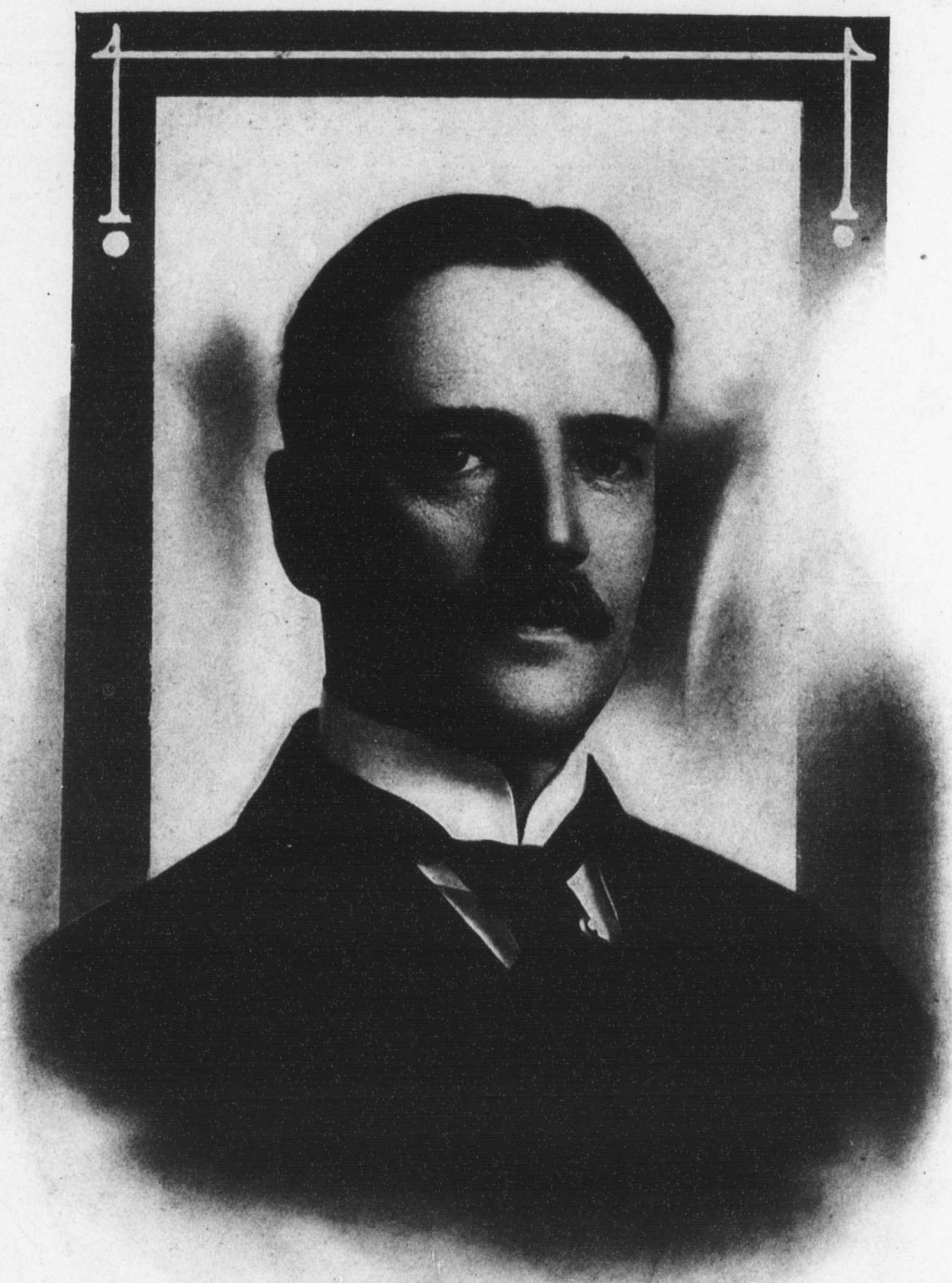
**No. 33**

*Issued Weekly By*  
**Kansas State Agricultural College**  
*Manhattan, Kansas*



~~~~~  
Published by
PRINTING DEPARTMENT
J. D. Rickman, Supt.

Entered at post-office, Manhattan, Kan., as second-class matter. Act of July 16, 1894.



President Henry Jackson Waters.

THE INDUSTRIALIST

VOL. 36.

MANHATTAN, KAN., AUGUST 20, 1910.

No. 33

Training for Life.

Kansas is an agricultural State and nine-tenths of its people are directly or indirectly dependent upon agriculture, yet a great majority of our boys and girls are given years of schooling without an hour's instruction in agriculture, manual training, preservation of food, and household economy—the things that they will have most to do with when they take up their life work. Educators generally agree that children are forced to leave the common school or the high school poorly equipped for solving the complex problems of actual life that are awaiting them on the farm, in the workshop, and in the home. The graduates may not know as much English and arithmetic as might be wished; their understanding of the philosophy of history and civics may not be deep; their knowledge of physical and political geography may have serious gaps, but, worse still, they know practically nothing at all of the mysteries of plant and animal life and the possibilities of plant breeding; nothing of the facts of human and animal nutrition and of balanced rations; nothing of the composition of soils and the restoration of soil fertility; nothing of the myriads of life forms revealed by the high power microscope; nothing of the thousands of facts concerning dynamics, strength of materials, inter-relation of force, heat, electricity, etc., and nothing of the modern methods of power transmission.

For these young people who have finished the public-school course, or who have exhausted the high-school resources within their reach, the question is whether they can afford to end their formal education or whether they should further prepare themselves by taking a course in an agricultural college or a technical school. To stop short of a college education, with the great problems of American civilization and progress waiting for a solution, means the placing of a limit upon usefulness in life at a time when the country is sending forth its appeals for whole armies of better trained men and women.

It is to meet the needs of these that forty-seven years ago Con-

gress founded the colleges of agriculture and the mechanic arts, of which schools the Kansas State Agricultural College is to-day one of the largest, best organized, best equipped, and most widely known. In the following pages will be found brief statements concerning the many courses of study given by this institution, but fuller information about courses, duties, privileges, entrance requirements, etc., may be obtained of Pres. H. J. Waters, Manhattan, Kansas.

Courses of Study.

As organized at present the Kansas State Agricultural College offers 39 definite courses of study. These are

Agricultural Group:

- A four-year course in agronomy
- A four-year course in animal husbandry
- A four-year course in dairying
- A four-year course in horticulture
- A four-year course in veterinary science
- A two-year course in agriculture
- A two-year short winter course in agriculture
- A two-year short winter course in dairying
- A one-year short winter course in dairy manufacture
- A short course in testing dairy products
- A six-week summer course for teachers

Mechanic Arts Group:

- A four-year course in mechanical engineering
- A four-year course in electrical engineering
- A four-year course in civil engineering
- A four-year course in architecture
- A four-year course in printing
- A one-year course in foundry work and pattern making
- A one-year course in blacksmithing
- A one-year course in drafting and machine shop practice
- A one-year course in boiler and engine operation
- A summer course in manual training for teachers

Home Economics:

- A four-year course in home economics
- A six-month course in housekeeping
- A twenty-week course for teachers

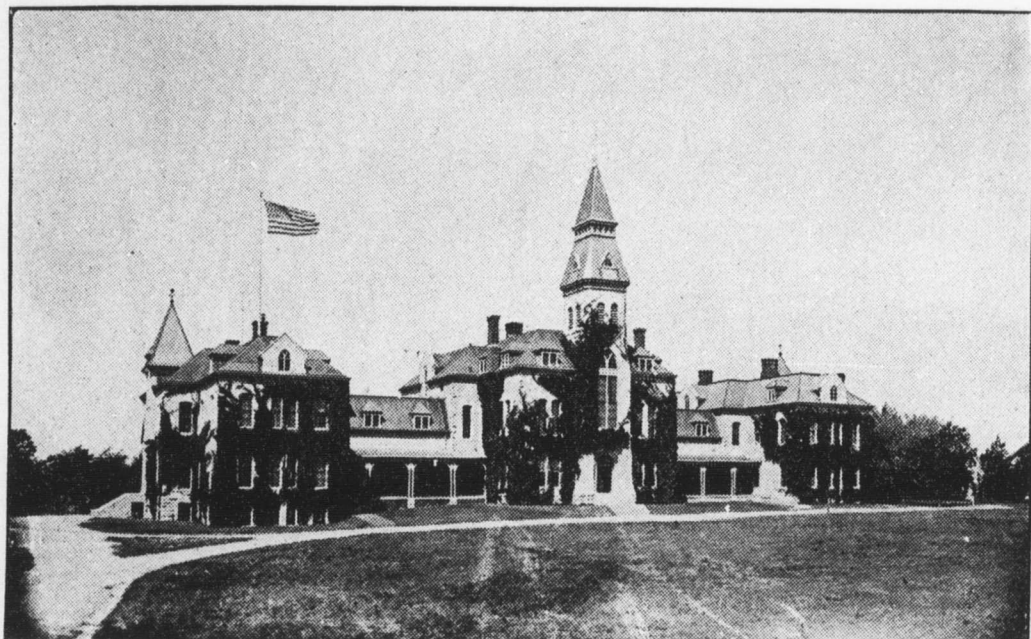
General Science:

Fifteen different organized four-year courses in pure and applied science in mathematical, physical, biological, educational and economical lines.

Entrance Requirements.

The Kansas State Agricultural College reaches down to the common school. It takes students as soon as they have completed the common-school course, but it recommends all common-

school graduates who are under sixteen years of age to attend a local high school for at least one or two years, especially if the high school offers instruction in agriculture, manual training, and domestic science. It offers instruction in high-school subjects for those who cannot secure elsewhere this training in vocational work. Young people who enter the College with a common-school



Anderson (Main) Hall.

diploma, or who are able to take an examination in the subjects required for such diploma, may enter the sub-freshman class.

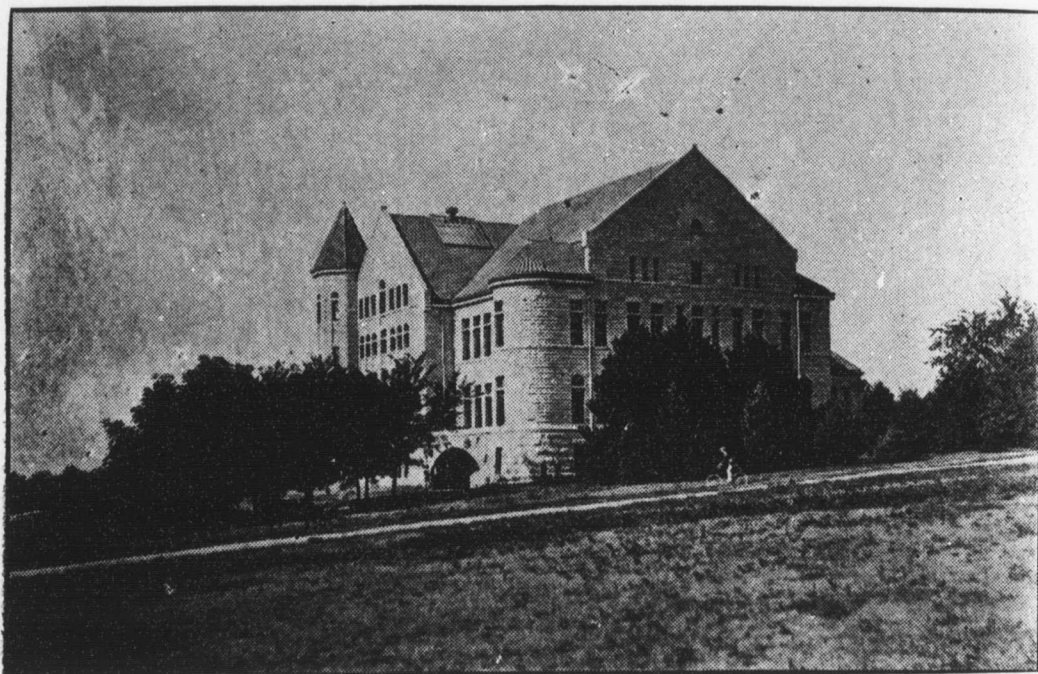
Students who have had two years' work in any accredited high school will be able to enter the Agricultural College in the freshman year of any of the courses, and will there receive not only instruction in the academic branches named, but will receive the laboratory drill in corn judging, stock judging, shop work, cooking, sewing, etc.

Graduates of accredited high schools will receive credit for practically all the work they have had in the high schools that is at all equivalent in character and extent to that offered here. Advanced standing will be given in English, mathematics, and history, and in such sciences as bear upon the work in the courses here. A student's exact rank will depend upon the subjects he has had in the high school, and will usually be determined for each individual by the committee on entrance in advance of the student's arrival. Those who have had one or more years in any secondary school or in any college should send for a certificate of entrance, and should submit the same in advance of the opening

of the college year, thus permitting all ranking to be attended to before the opening of the term.

Sub-freshman Course.

The Agricultural College offers a two-year secondary course for boys and girls who have completed the common-school course



Fairchild (Library) Hall.

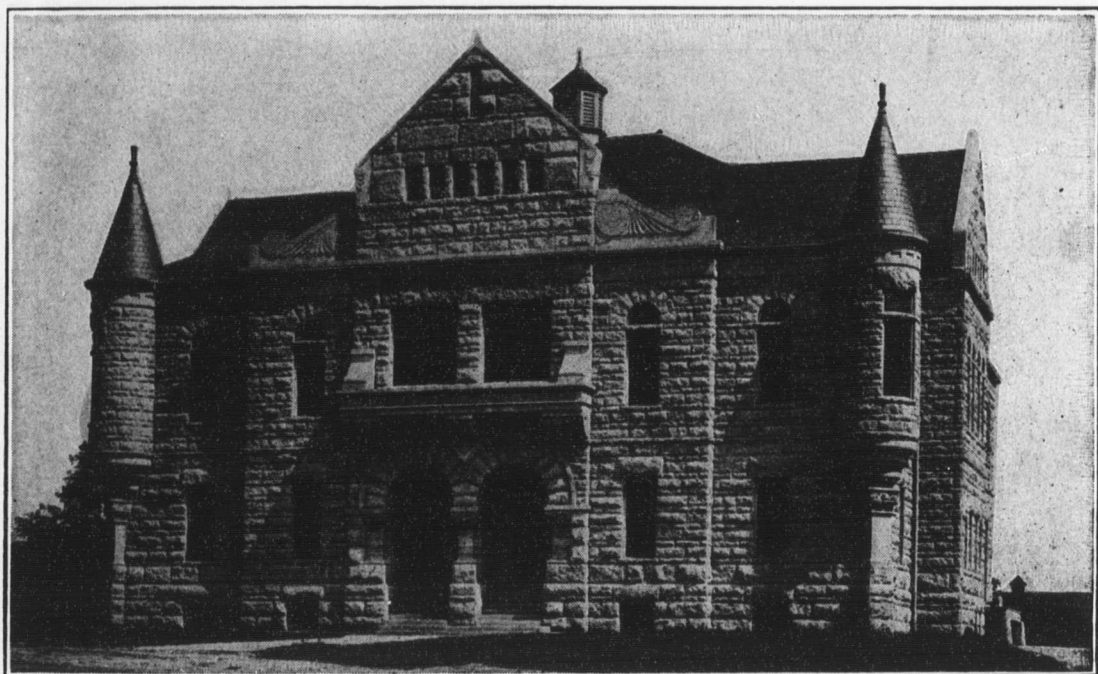
of study and who do not care to take a four-year classical course before getting instruction in the practical industrial subjects. This two-year sub-freshman course fits for the freshman year in the College; but better still, it gives a vast amount of practical laboratory instruction in such work as corn and stock judging, wood and iron work in the shops, budding and grafting, handling dairy apparatus, poultry management, cooking and sewing. Students with a common-school or grammar-school diploma or certificate will be admitted to the course without examination.

Expenses.

Tuition is free. An incidental fee of three dollars per term will be charged all students from Kansas. Students from outside of Kansas will be charged an incidental fee of ten dollars per term and an enrolment fee of ten dollars. Rooms, board and washing are not furnished by the College. Board, with furnished room, can be procured in private families at reasonable rates.

Opportunity for Self-support.

Probably not another college in the United States offers so many opportunities for partial support while in school. Thirty or forty students are employed as assistants in the care of the many buildings, and during the working season even a greater number are employed in the farm and garden departments; many



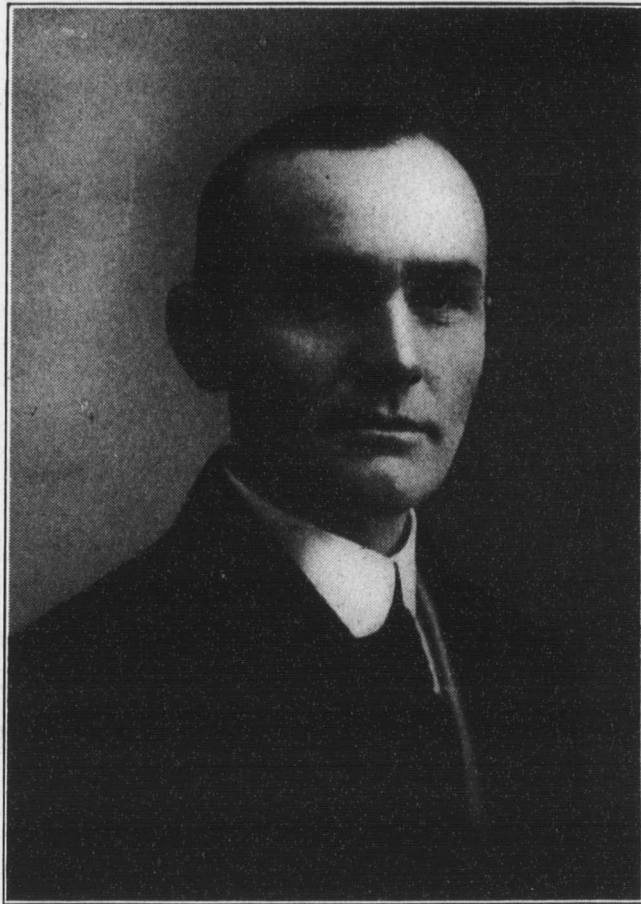
Agricultural Hall.

are employed in the dairy and stock barns, others in the creamery, and many in the shops. Fifty or sixty students every year work in the numerous boarding clubs, many secure good positions in Manhattan where they can earn their board, and all who have worked a year at the printing trade are almost sure of as many hours' employment every week as they can spare, either in the College printing-office or in the Manhattan printing-offices.

The Courses in Agriculture.

Agronomy.—The student of agronomy is taught how to analyze soils, how to determine what each farm crop demands, and what he must put back in order to preserve the proper balance of these chemical ingredients to produce profitable crops. He studies the philosophy of soil culture, tests seeds and analyzes for impurities and adulterations; studies plant breeding, and learns that better crops are produced from well-bred seed; learns about the diseases that attack plants, and about the injurious insects and the best methods of meeting their depredations. He receives careful

training in the judging of grains (corn and wheat) and grasses, and is instructed not only in the methods of growing and marketing grains and grasses, but he is also taught the necessity of increasing the power of production, the relation of this power of production to the economic and social welfare of the state and nation.



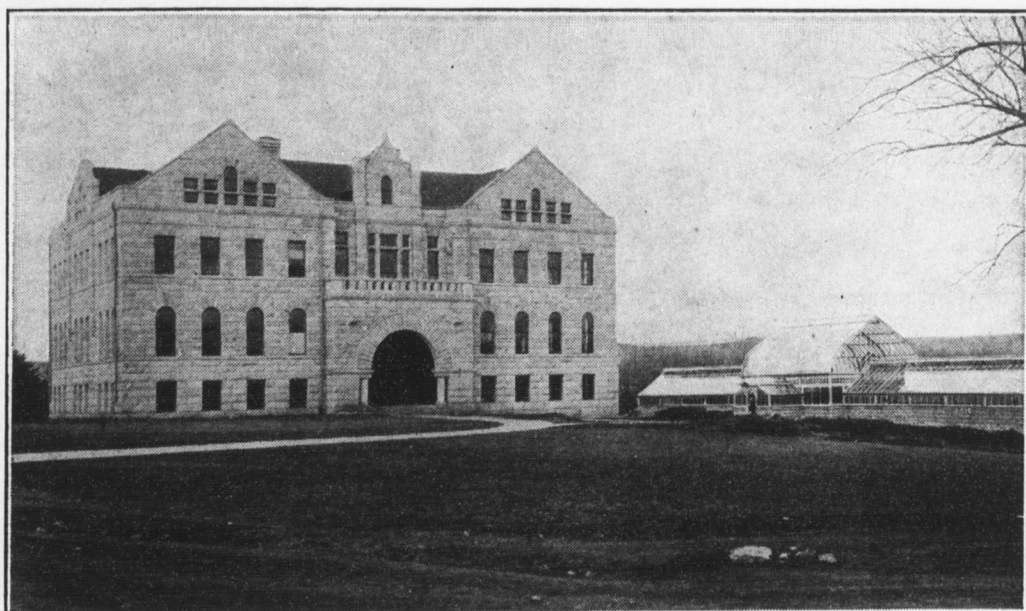
Prof. W. M. Jardine.

This is an age of machinery, and the farmer to-day needs to be well trained in handling complicated tools. The students are taught the application of mechanical principles in the handling of plows, reapers, cultivators, windmills, gas engines, and traction-engines; irrigation and drainage. Instruction is also given in the designing of barns, sheds and farmhouses, in farm bookkeeping and farm management.

Dairying.—Practically every farm in Kansas produces an amount of cream or milk for market, but it is probably true that in many cases there is little profit, due to poor cows, poor feed, and poor care. At the Agricultural College students are given instruction and actual practice in the selection of cows, in the handling of the herd, feeding, care, and milking, then instructed in the handling and testing of cream. They are then given scientific instruction in the making of butter and cheese. Thorough instruction is

given in chemistry, bacteriology, feeds, pastures, and in the construction of silos, dairy barns, etc. The College is well equipped for this work, with four distinct dairy herds, a model dairy barn, and a complete creamery plant.

Animal Husbandry.—At the Agricultural College the student receives an extensive course in the subject of animal breeding,



Horticultural Hall.

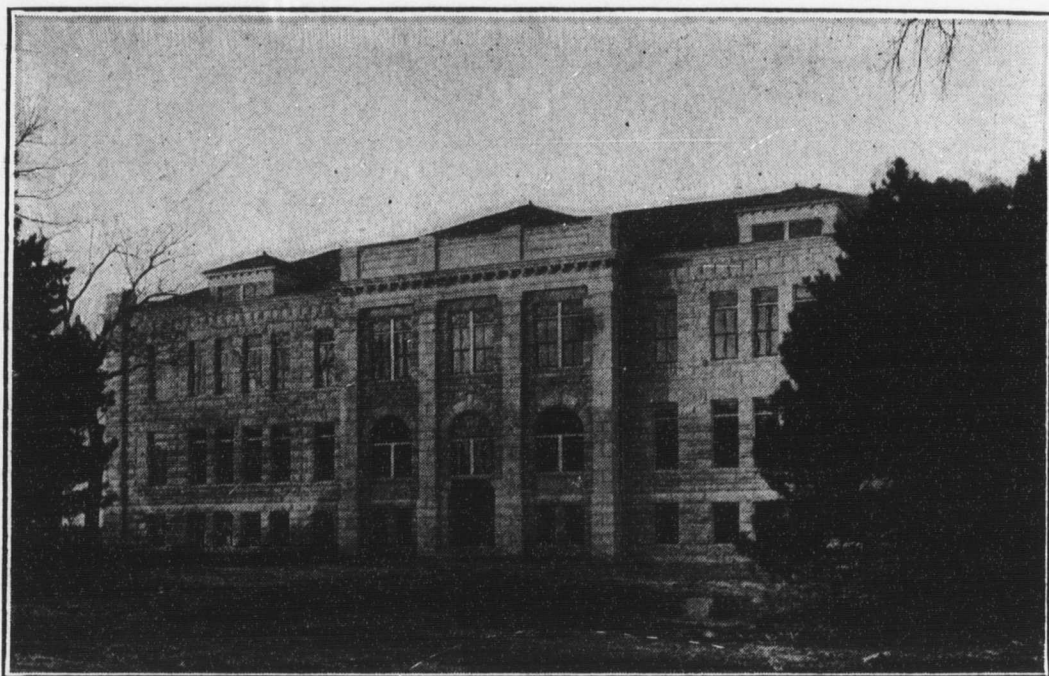
care and feeding, and is given careful instruction in judging stock. On the College farm are to be found all the time some of the finest live stock in the world. Last year the College won more prizes than any other exhibitor at the American Royal at Kansas City, at the Inter State Fair at St. Joseph, and at the great International Show at Chicago. Students are given practical training in all phases of live-stock management, and are taught the economic necessity for the growing of more live stock on the individual farm.

Students are also given thorough and practical instruction in all phases of poultry management, feeds, care, incubation, diseases, marketing, etc. Several complete poultry yards, with practically all the important poultry breeds, are maintained and students are given opportunity to assist in many experiments.

Horticulture.—Students who take the course in horticulture have several terms of instruction in matters relating to fruits and vegetables, from the selecting of site for the orchard, the varieties to be planted and the care of the orchard, pruning, spraying, etc. They are taught fruit and vegetable judging as well as general management. The teaching is of such a nature as to inculcate a desire for more scientific knowledge of horticulture and a keener interest in the economic problem of producing fruit and vegetables

at a profit. Students are given much actual practice in pruning and in spraying orchards in different parts of the State where demonstration work is being conducted by the College.

Veterinary Medicine.—The Agricultural College offers a course in veterinary medicine leading to the degree of doctor of veterinary medicine, a course with all the Government technical require-



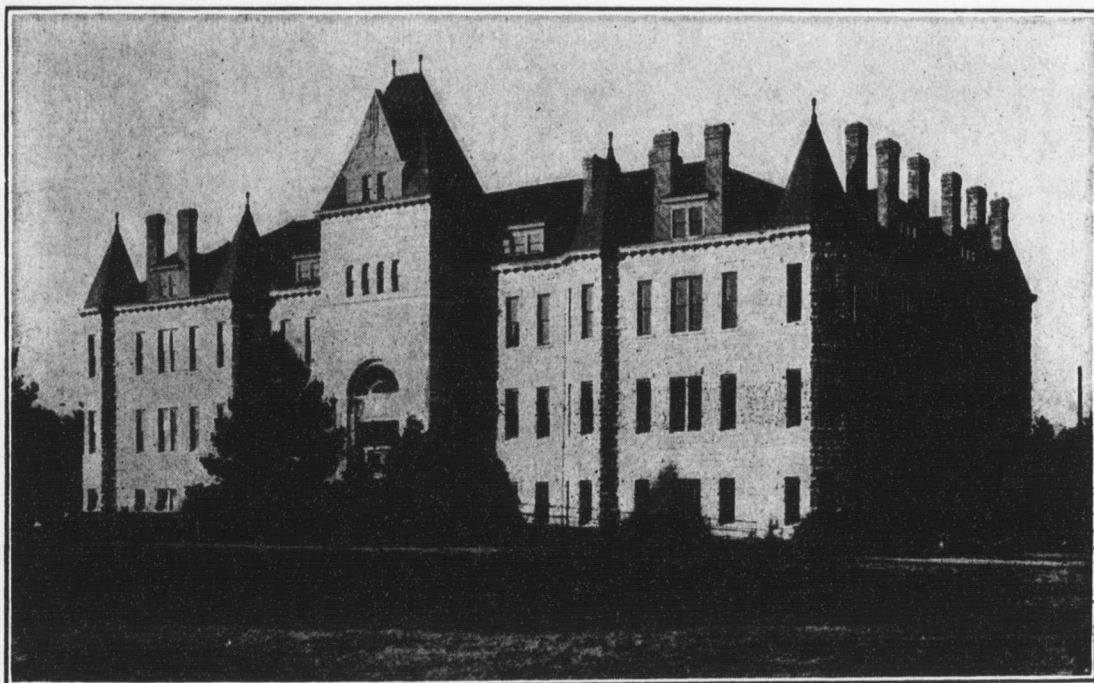
Veterinary Science Hall.

ments, but with additional instruction in general science, history, mathematics and English not usually offered at medical schools. Graduates of the course are not only trained in all technical phases of the profession, but they leave the institution ranking as educated men. Not only do they receive thorough training in such fundamental sciences as zoölogy, bacteriology, chemistry, etc., but students here have probably the most elaborate practice in clinics known anywhere.

The Courses in Mechanic Arts.

The College offers instruction in many lines of mechanic arts, and all male students are required to take at least one year of industrial training in the shops. Additional work may be selected by students in agriculture and in general science, while the students in the regular mechanic arts courses are required to take daily work in the shops during the whole course. The regular mechanic arts courses cover four years. They are: (1) Mechanical Engineering, (2) Electrical Engineering, (3) Civil Engineering, (4) Architecture, (5) Printing. The equipment of the school of engineering is one of the most extensive and effective in

America. Its inventory, inclusive of the several buildings especially erected for this purpose—the foundry, the machine shops, the electrical laboratories, the heat-and-power plant, the pumping plant, the print-shop, etc.—enumerates means amounting to considerably over half a million dollars. Arrangements have been made for two summer camps for the civil engineers who wish to



Physical Science Hall.

practice mine surveying, timber surveying, shore surveying, railroad surveying, etc.

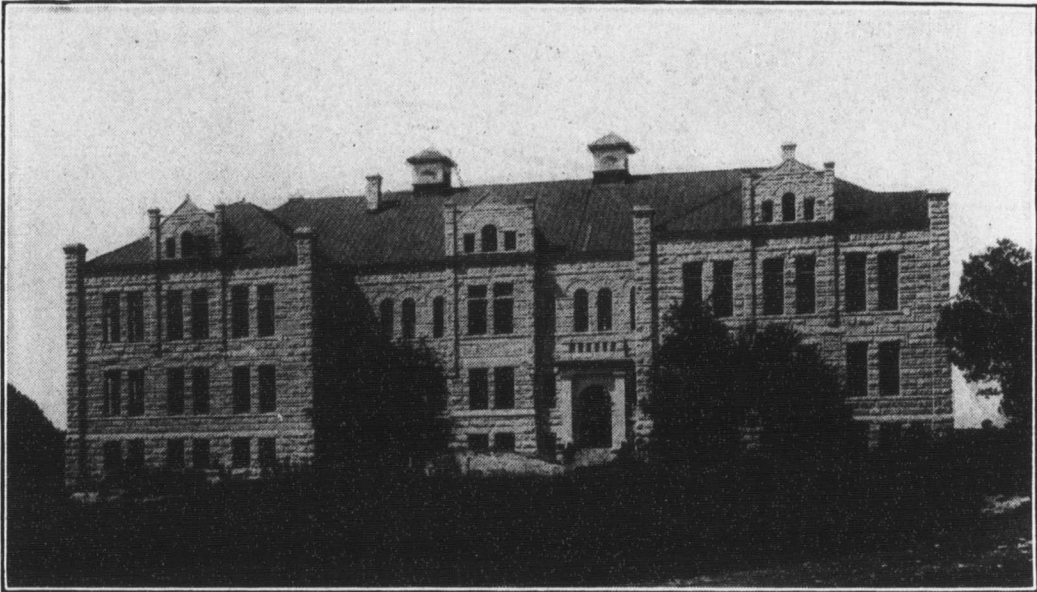
Home Economics Courses.

There is no profession that compares with that of home making in the possibilities for improvement of the race. It is of such importance that it calls for years of careful preparation and earnest study. The object of education in home economics is the utilization of all the resources of modern science in improving home life and to maintain the simplicity in material surroundings which will permit a permanent interest in home and society.

The training includes a knowledge of the laws of health, an understanding of the sanitary requirements of the home, the study of values, the wise expenditure of money, time and energy, the scientific principles underlying the selection and preparation of food, the right care of children, and the ability to secure efficient service from others. Experience shows that such training teaches contentment, industry, order and cleanliness, and fosters a woman's independence and feeling of responsibility. The im-

portance of this training for our girls can not be overestimated, for out of this movement will come the uplifting of the home ideal and the rearing of stronger and better men.

The housekeepers' course continues twenty-four weeks, and is for young women who cannot enter the full four-year course. This course opens with the fall term each year and ends with the



Domestic Science and Art Hall.

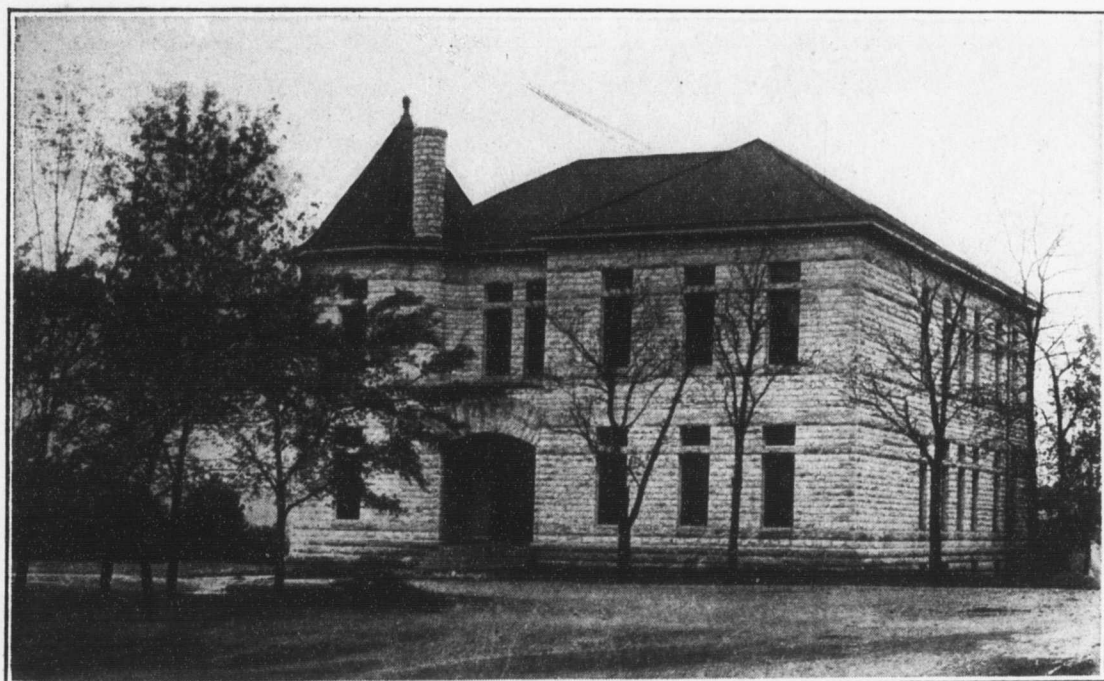
winter term. Three hours are spent each day in hearing lectures and in recitations, with an equal amount of time in the laboratories, kitchens and sewing rooms. Here, also, the girls are given instruction, with ample practice, in plain hand sewing, darning and mending. No one is admitted to this course who is under eighteen years of age, and girls between the ages of eighteen and twenty-one must have a common school, grammar school or high school diploma, or take an examination in English grammar, reading, writing, spelling, and arithmetic to fractions. Young women twenty-one years of age or over may be admitted to this course without a certificate and without examination, provided they have a fair common school education.

The teachers' short course in Domestic Science and Art is given in the summer, continuing twelve weeks. This course is primarily for those who are to teach domestic science and art.

Short Courses for Farmers.

Many young men are unable, or think they are unable, to take the regular courses. To meet the needs of these the College offers several short courses. The work is intensely practical, all students being given daily practice in laboratory, dairy, and stock-

and grain-judging room. These courses are in no sense equivalent to the regular courses, but they introduce the subjects so that students going back to the farm may continue to work out problems that otherwise would be serious obstacles. Prominent Kansas men have frequently said that even one term here in one of the short courses sends young men and women back to the farm



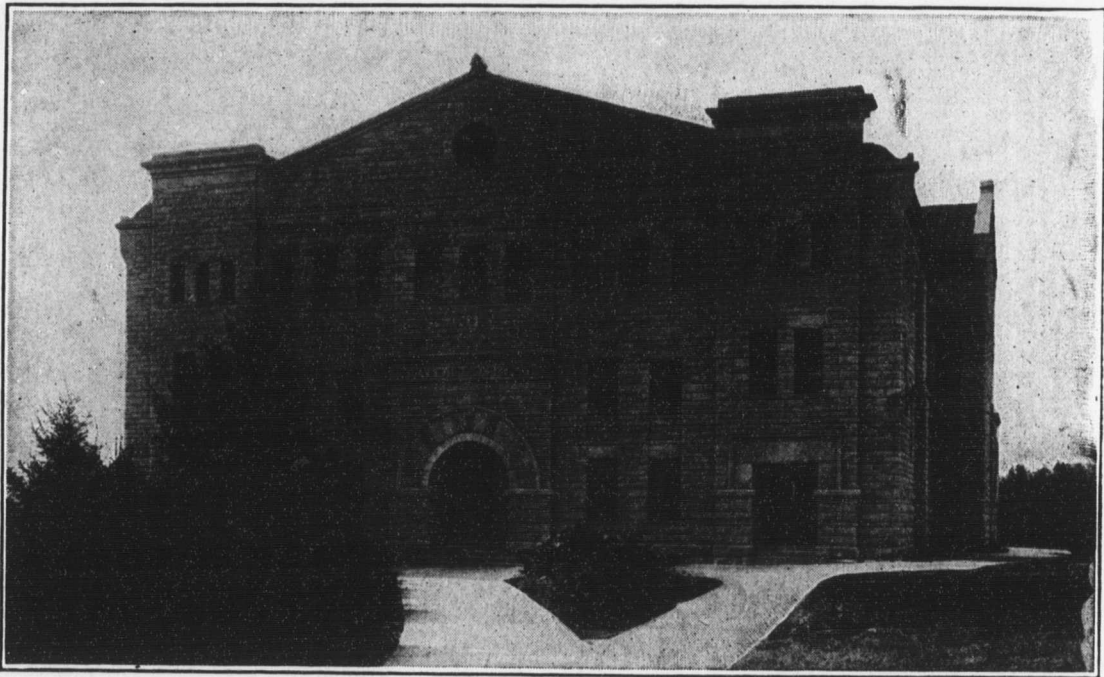
Printing Arts Hall.

better and more wide-awake citizens ever after. The farm and animal husbandry short course and the winter dairy short course are open to students above the age of eighteen years. These courses should be particularly inviting to young farmers who work for others. Their entire expense here for ten weeks will be less than it will be staying around the little towns doing nothing.

Naturally the largest group of students is always found in the Farmers' Short Course, which includes crop production, feeds and feeding, breeds of live stock, stock judging and carpentry the first year, and farm management, diseases of farm animals, grain judging and farm blacksmithing the second year. Crop production includes a discussion of the different soils, different crops, soil moisture, tillage, cultivation of crops, soil fertility, corn and wheat judging, methods of planting and seeding, etc. Farm management includes lectures on division of fields, rotation of crops, methods of restoring fertility, handling farm machinery—plows, cultivators, mowers, and all farm tools—laying out of farms, plans for farm buildings, farm accounts, etc. Animal husbandry has two courses, one on breeds of stock, which consists of about fifty

lectures on the various breeds of cattle, horses, hogs and sheep, with actual daily drill in the barns in judging the stock, and another on stock feeding. This consists of a series of lectures on feeding beef cattle, hogs, sheep and dairy cows, with opportunity to keep in touch with the experiments being conducted here.

The Dairy Courses have also attracted a great many young



Auditorium.

farmers. The special dairy course work is practical, including work with separators, testing milk and cream, making butter, cheese and ice-cream, with lectures on dairying, feeds for dairy cows, diseases of dairy cows, etc.

Correspondence Courses.

There may be many boys and girls who are now unable to continue in school or to enter high school or college who will want to take a correspondence course in elementary agriculture or in some other subject, and who later may be able to enter high school or college and continue their subjects, receiving credit, in many of them, when they do desire to enter college.

Only a small percentage of the farming population of Kansas can attend the classes at the Agricultural College, and only about sixty or seventy thousand people attend the farmers' institutes, and only a few hundred attend movable schools. There are still practically a million adult people living in the country few of whom have ever read carefully a single book on farm crops, dairying or horticulture, farm drainage, home economics, etc. The fee for this instruction is two dollars for each course.

J. D. W.

Local Notes.

The campus never looked fresher and greener and shadier and cleaner than this summer.

The College Extension Department is planning to hold a hundred farmers' institutes this fall.

Professor Eyer has bought the Rev. J. W. Hannum residence, on Laramie street, and moved into it.

The Kansas State Fair at Hutchinson will be held September 10 to 17, and that at Topeka September 12 to 17.

Captain Boice has received orders from the War Department to act as military instructor at this College for another year.

O. W. Weaver, editor of the *Students' Herald* last year, is now editor of the *Arkansas Valley Farmer*, a Wichita publication.

The new greenhouse behind the Horticultural Hall is beginning to loom up and show its proportions. It will measure about 120 by 150 feet.

The Horticultural Department has done a large amount of grading in and around the new greenhouse and around the new Engineering Hall.

The fall term of thirteen weeks will begin Thursday, September 22. Examinations for admission will be held Wednesday, September 21, at 9 A. M.

Prof. Leland Everett Call, of this College, and Miss Clara Willis, who for three years has been instructor in domestic science, were quietly married at the bride's home, New Bedford, Mass., and are now rolling over the road back to Manhattan, Kansas, in a motor car.

Asst. Prof. R. A. Seaton will not be with us the coming year. He was given a year's leave of absence (together with the title of professor of applied mechanics) to take a graduate course in his branches, especially in dynamics of machinery, at the Massachusetts Institute of Technology.

Pres. H. J. Waters delivered a course of five lectures in the animal husbandry course of the Graduate School of Agriculture at Ames, Iowa, in July. The school was well patronized by this College. Nineteen teachers from here took summer courses at Ames and all report a very profitable time.

Miss Ella Weeks writes to Professor Walters from Interlaken, Switzerland, July 25: "We are having a good time. The weather seems to have been made especially for us. The Rhine was grand and we had a glorious boat ride all day. However, Switzerland is best of all. I stopped four days at Lucerne and climbed Rigi and Brunig. To-morrow we shall go up to Schedeck and the glaciers of the Jungfrau."

Contractor Walter Stingley, of the new Nichols Gymnasium, is pushing the stone work of the building with commendable energy. The frames of the second story are in place and the structure is beginning to loom up well.

Prof. W. M. Jardine, who succeeds Prof. A. M. TenEyck at the Kansas State Agricultural College, is probably the best authority in America on all problems relating to dry-land farming, having had much experience in this work in Utah and Idaho, and later in all the dry-land portions of the United States.—*Mail and Breeze*.

Prof. John M. Scott, '03, assistant director of the Florida Experiment Station, stopped in Manhattan for a few days' visit on his way from Ames, where he was in attendance at the Graduate School of Agriculture, to Gainesville, Florida. Mrs. Scott is spending the summer with her parents, Mr. and Mrs. J. F. O'Daniel.

Prof. Henry M. Cottrell, formerly of this College, accompanied by Mrs. Cottrell and President Lory of the State Agricultural College of Colorado, visited "the Hill" last week. They were on a tour of inspection of the leading agricultural colleges of the West. President Lory secured two assistants for his growing institution while here.

The Board of Regents has appointed Prof. W. H. Andrews, of the Mathematical Department, head of the sub-freshmen (preparatory) department for the ensuing year. He will still be connected with his former chair and do a limited amount of teaching, but his principal work will be arranging and organizing the sub-freshmen work.

Supt. A. M. TenEyck, of the Hays Branch Experiment Station, has sent out a circular to the farmers of the State in which he advertises that the Hays Station has produced several thousand bushels of choice Kharkof wheat suitable for seed and that it will be sold to actual farmers at a very low price. The sales are limited to fifty bushels per farmer.

The College Y. M. C. A. has engaged a physical trainer for next winter and will conduct physical training classes at the Y. M. C. A. gymnasium. The classes will start in September. Mr. O. C. Thompson, the trainer, is a graduate of the Chicago Institute and Training School, a national Y. M. C. A. institution at which secretaries and physical directors are trained.

The successor to Prof. Walter E. King, of the Department of Bacteriology, is Dr. Francis H. Slack, now head of the bacteriological laboratories of the Massachusetts department of health. Doctor Slack has specialized for a number of years in sanitation and diseases communicated by milk and food. Another of his specialties is the diagnosis of throat diseases. He is a recognized authority in New England and his coming means a great deal to Kansas.

Last spring President Waters appointed a committee consisting of Professors Price, Willard and Walters to prepare a pamphlet of rules and regulations concerning courses of study, substitutions, military training, assignments, absences and excuses, outside work, etc., for use by students and teachers. The pamphlet will be distributed before the opening of the term and will prove helpful to all who will read it.

The Kansas county superintendents, to the number of sixty or more, held a three-days' session at the College last week for the purpose of discussing vocational education in its relation to the training of the youth of the State. The meeting was arranged by State Superintendent Fairchild. It is the first one of the kind and we judge from the spirit of the work that was done that it will not be the last one. It brought the superintendents in actual contact with the great technical school of Kansas and showed them what is being done in its class rooms, laboratories, shops, and experimental fields.

Mrs. W. A. Harris, wife of the late United States Senator W. A. Harris, has given to the Kansas State Agricultural College the private library which belonged to the senator. The library has been installed in a section of the College library, to be known as the W. A. Harris section. This library contains the senator's notes on financial and economic questions, and also the complete Shorthorn library that Colonel Harris owned. At the time of his death Colonel Harris was a Regent of the College, and this gift, coming at this time, will make a permanent memorial for his work in this institution.

The College has done a large amount of road, walk and curbing work during the vacation. The road from the main entrance to Anderson Hall was curbed and provided with a cement sidewalk. A broad cement walk was built from the main foot entrance to the junction of the walks at the foot of the hill, and several walks were built around the new engineering building. Contract has also been let for the construction of a large concrete culvert, passing diagonally through under the new athletic field, and for the grading and leveling of the field. The Mechanical Department has done much work covering the steam heating pipes of the north tunnel with asbestos felt.

From Ottawa, Kansas, comes the sad news of the death of Mrs. Mary L. Ward, the wife of Prof. Milan L. Ward, of Ottawa University. Mrs. Ward was an instructor in French and German at this College in 1875-'76, and the professor was the head of the Department of Mathematics from 1873 to 1883 and acting President in 1878-'79. (A number of State papers have published the statement that Mrs. Ward was at one time connected with the Home Economics Department, which is not a fact.) Mrs. Ward will be remembered as a bright, hard-working teacher and a helpful, kind-hearted neighbor. The aged professor has our sympathy in his bereavement.

The new Engineering Hall is completed, with the exception of the plumbing and heating work. The main part will be occupied the coming year by the Department of Mechanical Engineering. The upper rooms in the southwest corner will be the home of the Department of Architecture, those in the southeast corner will be occupied by the Department of Civil Engineering, and on the main floor near the south entrance will be located the engineering library and the office of the dean.

The Board of Regents have recently elected Mr. Charles Dillon, of the *Kansas City Star*, to teach the journalistic branches of the printing course and to act as publicity man for the College. A part of his duties will be to send out information about the College and its work to the Kansas papers. Mr. Dillon has been on the editorial staff of the *Star* for the past eleven years and has had charge of the agricultural division for about seven years. He is to-day one of the best-known journalists in America and brings with him a prestige that will prove invaluable to this College. We predict that under his fostering care the INDUSTRIALIST will again become the little newspaper giant which it was thirty years ago, when Pres. John A. Anderson penned its vigorous leaders and editorials. Mr. Dillon will remove to Manhattan early in September.

Pres. H. J. Waters reports the total cash contributions to the fund for the construction of the new athletic field August 11 at \$599.90. The cash amounts received since June 20 are as follows:

W. R. Ballard, '05.....	\$ 5
H. A. Ireland, '07.....	20
Glick Fockele, '02.....	5
J. U. Higinbotham, '86	50
Mrs. Alden Huse, '80 }	6
Miss Helen Huse, '08 }	
F. B. Morlan, '00.....	10
W. G. Tulloss, '99.....	5
Harrison E. Porter, '07.....	10
D. Foote, '09.....	10

This contribution of \$10 by Mr. D. Foote is the second one of the same amount made by him.

Sixty-minute hours four days a week will take the place next year of the old system of forty-five minute periods for five days a week for all solid studies. While the College will be in session six days per week there will be only four recitations in each study. Some classes will start Tuesday and last until Friday, while others will start Wednesday and last until Saturday. College will begin at 8 a. m. Between the second and third hours there will be a chapel period of thirty minutes, from 10 to 10:30. The third and fourth hours will follow, closing at 12:30 p. m. The afternoon session will start at 1:30 and the day's exercises will close at 3:30 p. m., except the military drill, which will last until 4:30 p. m. Monday will continue to be the weekly holiday and there will be as few classes as possible on that day. This new schedule will affect the boarding-houses and also necessitate quite a change in the College schedule clock.

The old rumor that the Manhattan City and Interurban Railway Company is going to build an electrical line to connect Manhattan with Fort Riley will probably become a fact before spring. The company has this summer completed its surveys, located the right-of-way, and has applied to the United States War Department for permission to traverse the Fort reservation. President West expects to begin the work of construction this fall. The line will cross College Hill near Professor Ten Eyck's farm home, and Wild Cat creek near the Swingle place. From there it will head over the hills toward Eureka Lake, where Mr. West has already bought a natural park of twenty acres of fine woodland for an amusement park.

Prof. L. E. Conrad, of the Civil Engineering Department, will spend a month in the field with the junior civil engineers before the opening of College. August 21 he will take the young engineers to the Hays Branch Experiment Station farm where they will devote two weeks to land and topographic surveying. The Experiment Station will furnish the boys with their board and lodging during their stay. From there they will go to Lansing and make a survey of the penitentiary mines, and also do some drainage surveying on the penitentiary farm. This work is being done at the request of Warden Coddington, and he will take care of the expenses of the party. As soon as that work is finished they will do some hydrographic work along the Kansas river. The boys will then return to Manhattan in time to enter College. For this four weeks of work the students will be allowed credit for Surveying V and VI. This summer work is optional, and those who cannot take it will be allowed to take work at College. Next year the summer work will probably cover six weeks.

Dean McCormick has closed the contracts for the football games this fall and Coach Ahearn pronounces it without doubt the best schedule the Aggies have ever had. The following men of last year's team will report for practice next fall: Former Captain Gingery, Zoller, Elliot, Bates, Captain-elect Croyle, Speer, Seng, Towler, Roots, Edwards, Sims, Haywood, Hammond, and Christian. Billy Randels, full-back in the fall of '07 and '08, will re-enter College. Holmes, Sidorfsky and Walden are promising members of the tyro squad. Mike Ahearn will coach again this season. Next year we will have to hunt a new man, as Ahearn's resignation has been accepted to take effect at the close of the season. Contracts have been signed for the following dates, except October 22. Salina Wesleyan will probably furnish the initial contest: October 1.—Haskell, at Manhattan. October 8.—Kansas Normal, at Manhattan. October 15.—University of Arkansas, at Fayetteville. October 17.—Drury, at Springfield. October 22.—Tarkio College, at Manhattan. October 29.—Creighton University, at Omaha. November 5.—Colorado College, at Colorado City. November 12.—Fairmount, at Manhattan. November 18.—Baker University, at Manhattan. November 24.—Washburn, at Manhattan.

Five years ago there were not over twenty silos in Kansas. Last year about that number were erected in Shawnee county and two or three in Riley county. The Kansas State Agricultural College has been advocating the use of silos for more than twenty years, but Kansas farmers were not ready to follow the advice. This year, however, the College people are getting returns for the twenty years of "preaching," as probably one hundred stave silos have been put up in the State this spring, and the Extension Department of the College will superintend the construction of more than thirty concrete silos.—*Mail and Breeze*.

A new and revised edition of Madison C. Peters' book, "Justice to the Jew," has been issued by the Trow Press, of New York. The present volume is really a new book under an old title, since but little of the subject-matter of the old is retained in the new. The book should be of interest not only to the student of history, but also to the general reader, for Doctor Peters, in description and analysis, has succeeded in presenting the Jew in a new and favorable light. His is not the Jew of Shakespeare nor of the squalid Ghetto, but of history, art, science, and literature. The last two chapters of the book, entitled "Jewish Traits and Characteristics," and "Justice to the Jew," are especially interesting both in subject-matter and presentation. Few if any who read the book will fail to be favorably impressed with the history of Jewish contribution to human progress in all lines; and many no doubt will reverse or at least revise their former estimates of Jewish worth and character after reading this tribute of Gentile to Jew. The fact that Doctor Peters is to lecture here next winter adds interest to the book locally.—*J. E. Kammeyer, Professor of Economics*.

State Forester C. A. Scott has been much in demand this summer by parties desiring information or plans for forest and park planting. The following plans have lately been perfected: A general plan for a city park at Conway Springs, and a planting plan for the State Reformatory farm at Hutchinson, Kansas. This plan includes the planting of windbreaks to protect the cultivated fields from the encroachment of drifting sands along the Arkansas river, the planting of some thirty acres of sand-dune lands in forest trees to grow commercial timber, the straightening of Cow Creek, and the planting of waste lands along the same stream. A small forest nursery has been developed on the farm to grow the necessary trees for these plantings and also to give the inmates of the institution an opportunity to acquire training in nursery work. As a landscape feature, the plan provides for a park and a lake of considerable size, the lake to be fed by Cow Creek. Planting plans have also been prepared for the Larned fair grounds, the Dodge City school grounds, and the Bulter county court-house yard. Among uncompleted work are the general plans for city parks at Newton, Columbus, and Harper. Applications are on file from several private persons for working plans for the management of farm wood-lots.